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The Impact of Therapeutic Alliance on Outcomes in Parent-Child Dyadic Interventions

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RUNNING HEAD: THERAPEUTIC ALLIANCE IN EARLY CHILDHOOD INTERVENTIONS

The Impact of Therapeutic Alliance on Outcomes in Parent-Child Dyadic Interventions

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Abstract

An infant's attachment relationship with primary caregivers has been demonstrated to have a long-term relationship to an individual's social and emotional functioning throughout the lifespan. Recognizing the critical importance of this period, interventions to facilitate secure attachment are now being evaluated for treatment efficacy. Evaluation of these treatments has typically focused on the components of treatment, examining changes in maternal sensitivity, parental attachment representations, and concrete support to address basic needs, housing, or other contextual factors, and evidence has been found to support the inclusion of these factors.

However, little is known regarding what elements of treatment impact the effectiveness of dyadic parent-child interventions; the research that has been completed has focused primarily on aspects of the intervention. There continues to be considerable debate in the psychotherapy literature regarding whether the specific components of an intervention, or the common factors present in all interventions, are responsible for therapeutic change. The purpose of the present study was to examine the role of one common factor, therapeutic alliance, in facilitating attachment-based protective factors in the child. It was hypothesized that therapeutic alliance, as rated by the parent, would predict improvements in attachment-related protective factors as rated by the treating interventionist following 6 months of dyadic intervention.

The results of the present study found that specific subscales of the therapeutic alliance (the goal, task, and total alliance scales) predicted changes in children's initiative behavior, but not their attachment-related engagement behavior. Therapeutic alliance also predicted treatment participation, and it was not possible to rule out treatment exposure as a mediating variable between therapeutic alliance and change in initiative behavior. Implications for future research and practice are discussed.

I. BACKGROUND AND RATIONALE

Infancy is a vulnerable period in a child's development. An infant's brain rapidly matures, more than tripling in size in the first three years. This early growth establishes children's capacity to effectively manage emotions, learn, and form relationships with others, skills that are fundamental to success in virtually all domains later in life (A. N. Schore, 2003; Siegel, 1999). The most important factor in an infant's healthy psychological development is a secure attachment relationship---a safe, consistent, and stable relationship with a primary caregiver. The secure consistency of this relationship facilitates the child's neurological, intellectual and emotional growth, and can also serve as a buffer against risk factors in an infant's environment (Bowlby, 1983; A. N. Schore, 2003; L. A. Sroufe, Egeland, Carlson, & Collins, 2005).

Certain risk factors have been shown to negatively impact the infant-parent attachment relationship, and consequently, the child's development. Problems in the parents' past or current life circumstances can make it difficult for them to respond sensitively or consistently to their children. Some of these risk factors include a history of abuse, trauma, or other difficulties in the parent's childhood (Madigan, Bakermans-Kranenburg, van Ijzendoorn, Moran, Pederson, & Benoit, 2006), conflict between the parents (Tarabulsky, Bernier, Provost, Maranda, Larose, Moss, Larose, & Tessier, 2005), substance abuse (Quinlivan & Evans, 2005), or mental illness (M. T. Greenberg, 1999; Hobson, Patrick, Crandell, Garcia-Perez, & Lee, 2005; Radke-Yarrow, Nottelmann, Belmont, & Welsh, 1993a). Poverty (Bakermans-Kranenburg, van Ijzendoorn, & Kroonenberg, 2004), social isolation (Diener, Nievar, & Wright, 2003), and high levels of overall stress have also been linked to problems in the infant-parent relationship (Weinfield, Whaley, & Egeland, 2004).

When compared with parents who are not experiencing these risk factors, parents who are struggling with these problems typically have an impaired ability to be involved in the child's physical care and play, have trouble appropriately meeting the infant's normal needs for attention, demonstrate diminished affection towards the child, or have difficulty responding calmly and consistently to the infant's distress. All of these factors disrupt the infants' ability to form a secure attachment to their parents, and the consequences for the child can be profound and long-lasting. From childhood to adulthood, children with insecure attachment are at greater risk of developing serious psychopathology (L. A. Sroufe, Carlson, Levy, & Egeland, 1999).

In early childhood, children who have had attachment problems in infancy are more likely than children with secure attachment histories to have trouble managing their emotions and to have aggressive behavioral problems (Keller, Spieker, & Gilchrist, 2005; Moss, Smolla, Cyr, Dubois-Comtois, Mazzarello, & Berthiaume, 2006). Compared to securely attached children, they are more likely to have pervasive problems in peer relationships or to be isolated socially, to be controlling in peer interactions, or to be perceived as "mean" by peers or teachers (Suess, Grossmann, & Sroufe, 1992). Children with attachment difficulties are less persistent than securely attached children when solving problems, less confident, and generally more dependent on adults (Lutkenhaus, Grossmann, & Grossmann, 1985; Matas, Arend, & Sroufe, 1978). Throughout childhood and adolescence, insecurely attached children are more likely to experience depression, anxiety, or hostility than securely attached children (Abela, Hankin, Haigh, Adams, Vinokuroff, & Trayhern, 2005; Bosquet & Egeland, 2006; L. A. Sroufe, Fox, & Pancake, 1983).

Conversely, a healthy infant-parent relationship has been linked to a number of positive outcomes for children and may serve as a buffer in the face of later problems (L. A. Sroufe et al.,

2005). Secure attachment appears to serve as a protective factor against psychopathology or trauma, and is associated with a range of healthy personality variables such as lower anxiety, lower depression, less hostility, better resilience and more effective affect regulation (Berlin & Cassidy, 2003; Bosquet & Egeland, 2006; Schieche & Spangler, 2005; Spangler & Schieche, 1994). In elementary school, children who had secure attachment relationships in infancy have higher self esteem, are more likely to positively engage with and respond to other children, and are more empathic than insecurely attached children (Bohlin, Hagekull, & Andersson, 2005; Raikes & Thompson, 2006). Children who demonstrate stronger attachment security are more self reliant, more enthusiastic and self efficacious than children with histories of insecure attachment in infancy (Schieche & Spangler, 2005; L. A. Sroufe et al., 1983). They are more likely to be accepted by their classmates and are better at forming close relationships, and are judged to be more resilient (Bohlin et al., 2005; Weinfield, Sroufe, Egeland, & Carlson, 1999). Secure attachment fosters an ability to seek and utilize positive relationships for emotional support and soothing, as well as an ability to efficaciously explore the environment and attempt challenging tasks. These attachment-related protective factors allow the child to develop a repertoire of adaptive skills

Despite the importance of a strong parent-child relationship in early childhood, children remain especially vulnerable to experiencing adverse life events during this period. In the United States, rates of child abuse are inversely related to the age of the child, and children under three are more likely to experience recurrent abuse than children of any other age (U.S. Department of Health and Human Services, *Child maltreatment*, 2004). With the exception of boys in their late teens, children in the United States are more likely to be killed in their first two years than any other time in their lives (Snyder & Sickmund, 1999). In recent years, the importance of

attachment on later functioning has received increased attention in both research and public policy, and efforts have been made to understand the causes, and possible solutions, to attachment problems in early childhood.

To address the risk to young children and to support positive parent-child attachment in early childhood, a number of different interventions have been developed, and research on the effectiveness of these interventions is ongoing. The interventions developed have followed the typical course of development for empirically supported treatments in adult psychotherapy; the treatment interventions include specific components that address the suspected causes of the problem (Wampold, 2001). Current attachment interventions include components that attempt to increase maternal sensitivity and responsive behavior, to address the parent's attachment representations, or to reduce the parent's life stress or problems in the environment, all of which have been shown to impact attachment security. Recent research has examined and found some evidence for the utility of these components in improving attachment outcomes (Cicchetti, Rogosch, & Toth, 2006; van Ijzendoorn, Bakermans-Kranenburg, & Juffer, 2005). However, there is currently no clear evidence that any one of these components is more influential than any other component in facilitating a strong parent-child relationship.

The lack of a clearly curative treatment component in attachment interventions leaves questions regarding whether the treatment components themselves, or some other factor, may be responsible for therapeutic change. There is still debate regarding the role of specific components in the efficacy of adult psychotherapeutic interventions, and some evidence suggests that the specific ingredients of an intervention have a negligible impact (Luborsky, Rosenthal, Diguier, Andrusyna, Berman, Levitt, Seligman, & Krause, 2002; Wampold, Mondin, Moody, Stich, Benson, & Ahn, 1997). Some authors have argued that it is the common factors across

interventions that actually cause improved outcomes in psychotherapy (Frank, 1973). There is a large body of evidence that suggests that common factors, especially therapeutic alliance, appear to play a significant role in treatment efficacy independent of the impact of the intervention's ingredients (Bernal, Bonilla, Padilla-Cotto, & Perez-Prado, 1998; P. D. Brown & O'Leary, 2000; Norcross, 2002; Pos, Greenberg, Goldman, & Korman, 2003; Santiago, Klein, Vivian, Arnow, Blalock, Kocsis, Markowitz, Manber, Riso, Rothbaum, Rush, Thase, McCullough, & Keller, 2005). However, therapeutic alliance also predicts increased treatment participation in the adult psychotherapy literature (Barber, Luborsky, Gallop, Crits-Christoph, Frank, Weiss, Thase, Connolly, Gladis, Foltz, & Siqueland, 2001; Meier, Donmall, McElduff, Barrowclough, & Heller, 2006; Raytek, McCrady, Epstein, & Hirshch, 1999), and therefore may improve outcomes by increasing exposure to the intervention. Alliance also and appears to mediate against the negative impact of symptom severity (Petry & Bickel, 1999).

While there has been less research examining the impact of the therapeutic relationship on outcomes in early childhood interventions, interventions with young children have typically placed a greater emphasis on the role of the therapeutic relationship in fostering change than the adult psychotherapy literature. Attachment theory is centrally concerned with the influence of relationships on the functioning of the individual. Starting with the seminal work of Selma Fraiberg and colleagues, the relationship between the parent and interventionist has been understood to be an important part of the intervention's effectiveness, creating at minimum a safe context in which the parent can explore their transference projections on the child as well as the therapist (Fraiberg, Adelson, & Shapiro, 1980). Her student, Alicia Lieberman, later described the possibility that interventions could provide a "corrective attachment experience," allowing the parent to experience a sense of trust and safety that would allow them to develop

mastery over their challenges in adulthood (Lieberman, 1991). As eloquently phrased by Emde, Korfmacher, and Kubiack, attachment interventions are fundamentally “the influence of relationships on relationships (1999, p. 17).”

Like parent-child attachment, psychotherapy is an interactive process in which the participants mutually influence, and mutually impact each other; unconscious, nonverbal interactions appear to play a significant role. As in the attachment relationship, in the psychotherapy relationship the therapist serves as an external regulator of the client’s emotional distress, providing a combination of attuned mirroring, validation, as well as reflective insight. Ultimately, this process is theorized to expand the client’s ability to recognize and tolerate complex internal experiences and regulate their affect, allowing them to respond flexibly and adaptively. As described by Schore and Schore (2008),

Thus, at the most fundamental level, the intersubjective work of psychotherapy is not defined by what the therapist does *for* the patient, or *says* to the patient (left brain focus). Rather, the key mechanism is how to *be with* the patient, especially during affectively stressful moments (right brain focus). [emphasis added]

While the infant-parent relationship remains the primary target of intervention, this relationship is embedded within a number of other relationships in the extended family system and community, and these relationships are, in turn, connected to the parent-interventionist relationship (Emde et al., 1999). The recognition that the parent-child and parent-therapist relationships are subject to parallel processes have led several authors to emphasize the formation of a strong therapeutic relationship, emphasizing regulatory processes similar to the

attachment relationship, as a fundamental part of the treatment model (Lieberman, 2004; Pawl & St. John, 1998; Robinson, Emde, & Korfmacher, 1997). Pawl (1995) has also expanded the importance of parallel processes to include staff training in her development of reflective supervision; her “platinum rule” of supervision, a corollary of the golden rule, describes this idea succinctly: *do unto others as you would have others do unto others*.

In parenting interventions for young children, the therapist may serve as an adult attachment figure for the parent. The parent’s salient, positive relationship with their therapist may foster emotional stability, trust, and intimacy in their close relationships with others, subsequently eliciting parent behavior that is concordant with a secure attachment history. Some evidence from the adult attachment literature lends support to the possibility that exposure to positive relationships can influence individual attitudes and behavior. In a series of experiments, Mikulincer, Shaver and colleagues found that overtly or subconsciously priming participants with thoughts or memories associated with attachment security led to increases in beliefs in benevolence and altruism, increases in feelings of compassion and sympathy for others’ suffering, and an increased willingness to help or sacrifice for others (Mikulincer, Gillath, Halevy, Avihou, Avidan, & Eshkoli, 2001; Mikulincer, Gillath, Sapir-Lavid, Yaakobi, Arias, Tal-Aloni, & Bor, 2003; Mikulincer, Shaver, Gillath, & Nitzberg, 2005).

Corrective attachment experiences may be especially important in early childhood interventions. The parents served by these programs often have significant histories of trauma and loss (Greenspan, 1982), and large majorities of the parents served are themselves classified as insecurely attached (Spieker, Solchany, DeKlyen, & Barnard, 1999). Repeated childhood experiences of neglect, indifference, and unresponsive care giving can create deep patterns of mistrust as well as unmet needs for emotional support (Robinson et al., 1997). These histories

appear to interfere with their ability to trust the interventionists and form working relationships, which negatively predicts program participation and treatment engagement (Heinicke, Goorsky, Moscov, Dudley, Gordon, Schneider, & Guthrie, 2000; Korfmacher, Green, Spellmann, & Thornburg, 2007).

However, research in the adult attachment literature has demonstrated that increasing the salience of supportive attachment reduces the automatic processing, and subsequent influence, of traumatic memories (Mikulincer, Shaver, & Horesh, 2006). It appears that a parent's history seems to have less of an impact on alliance formation, and outcome, than the skill of their particular therapist in forming a strong alliance (A. E. Smith, Msetfi, & Golding, 2010). While the difficult histories of parents served in these programs present a barrier to treatment engagement, they also repeatedly serve as a points of entry, subsequently allowing the interventionist to influence the parent-child relationship (Chalmers, 1994; Greenspan & Wieder, 1984; Lieberman, 2004; Spieker et al., 1999).

In qualitative studies, parents often report that their relationship with their home visitor was personally transformative, and rate the presence of a supportive, caring therapeutic relationship as far more impactful than the concrete services offered in the intervention (Pharis & Levin, 1991). Even in work with hard-to-engage families, many clients reported that the relationship with their home visitor or therapist has altered their view of what is possible in relationships, and strength of the relationship has consistently appeared to play a role in program efficacy with difficult clients (Chalmers & Luker, 1991; Heaman, Chalmers, Woodgate, & Brown, 2006; Spieker et al., 1999). As described by Robinson, Emde, and Korfmacher (1997),

The home visitor, by maintaining a healthy supportive alliance, shows the parent that positive, caring relationships are possible. The parent begins to see herself as someone who deserves support and attention, and by extension, sees her child as deserving the same (p. 67)

Preliminary findings examining the parent-therapist alliance in parent-child interventions have found results similar to the adult treatment literature. In interventions with older children, therapeutic alliance between the parent and therapist is also associated with increased treatment attendance (Hawley & Weisz, 2005; Robbins, Liddle, Turner, Dakof, Alexander, & Kogan, 2006). Alliance has also been found to predict improved outcomes in parent-child relationship interventions for older children, and this relationship has remained after controlling for mediating variables such as child dysfunction, parent psychopathology and stress, or socioeconomic status (Kazdin, Marciano, & Whitley, 2005; Kazdin, Whitley, & Marciano, 2006). In early childhood interventions, parental ratings of the alliance have repeatedly predicted parental involvement in the intervention, and in some cases have demonstrated a relationship with treatment outcomes (Heinicke et al., 2000; Korfmacher et al., 2007; Korfmacher, Kitzman, & Olds, 1998; Wen, Korfmacher, Hans, & Henson, 2010).

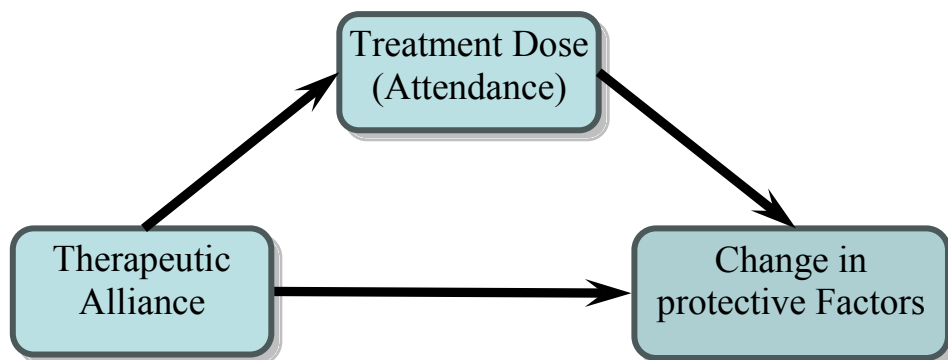
Purpose

Research on early childhood attachment interventions has primarily examined the role that an intervention's components play in creating therapeutic change. To date, the specific components that have demonstrated a therapeutic impact include: behaviorally increasing maternal sensitivity, addressing the parent's attachment representations and/or unresolved trauma

or loss, and providing case management (Bakermans-Kranenburg, van Ijzendoorn, & Juffer, 2003; Cicchetti et al., 2006).

However, the role that common factors may play in these interventions has rarely been examined. As the social-emotional nature of relationship with the therapist may serve as a “corrective attachment experience”, allowing the parent to establish a healthier social emotional relationship with their child, this relationship may have an independent impact on the attachment relationship between the parent and child (Lieberman, 1991; J. R. Schore & Schore, 2008; Shaver & Mikulincer, 2008). Conversely, it is also possible that the parent-therapist therapeutic alliance may simply increase treatment attendance, and consequently, their exposure to the specific ingredients of the treatment. Parent-therapist alliance has been shown to increase treatment participation in early childhood interventions (Heinicke et al., 2000; Korfmacher et al., 2007), which may explain the improved outcomes demonstrated in cases with higher working alliances. It is currently unclear if therapeutic alliance has a direct and independent impact on treatment outcomes in early childhood interventions, or if its impact on outcomes is due to increased treatment attendance and exposure to the treatment components. In this latter scenario, the impact of the therapeutic alliance is mediated by treatment effects. These different possibilities are diagrammed in Figure 1, below.

Figure 1. A moderation model of the potential causal relationships between working alliance, attachment-related protective factors, and treatment exposure.



To address this gap in the literature, the purpose of the present study was to examine the relationship between provider-parent therapeutic alliance and attachment-related outcomes in parenting interventions for young children. The present study utilized regression analysis to examine the relationship between working alliance and treatment outcomes. As the impact of alliance may create outcomes through increased treatment exposure, moderator analysis was also conducted to determine if the relationship between therapeutic alliance and outcome was moderated by treatment exposure.

Hypotheses

Parent-therapist alliance will predict an increase in attachment-related protective factors in young children receiving a parent-child intervention:

- 1) The goal alliance will predict changes in child initiative, attachment engagement, and total attachment-related Protective Factors.
- 2) The task alliance will predict changes child initiative, attachment engagement, and total attachment-related Protective Factors.
- 3) The bond alliance will predict changes child initiative, attachment engagement, and total attachment-related Protective Factors.
- 4) The total alliance will predict changes child initiative, attachment engagement, and total attachment-related Protective Factors.

II: LITERATURE REVIEW

The role of attachment in children's mental health and development

Within the last fifteen years, infant-parent attachment has come to be recognized as the primary developmental processes through which children organize their social and emotional experiences, eventually developing the capacity to regulate their affect (A. N. Schore, 2003). A number of theorists have argued that affect serves a self-organizing function in early development, and this organization is only possible if negative affect is regulated within a supportive care giving system (A. N. Schore, 2003; Siegel, 1999; L. A. Sroufe et al., 2005; Stern, 1988). In early infancy, children are unable to regulate their own emotions and must rely on soothing from caregivers to regulate their physiological response to distress. In times of distress, the mother soothes the child through touch, as well as reflecting or mirroring the child's anxiety through vocal tone and facial expression. If the caregiver is attuned to the child's needs and responds consistently, the child comes to see distress as a temporary experience that can be mastered and overcome through the security and comfort of a relationship.

As the child's interactive capacities emerge, affective mirroring and verbal reflection by primary caregivers helps the child organize their emotional experience and contributes to the child's emerging capacity to self-regulate emotional states. The security of this relationship, the presence of a safe haven in the face of distress, allows the child to explore their environment and attempt developmental challenges. In addition to attenuating negative affect, early childhood interactions also increase positive affect. In the first year of life, mother-child interactions are characterized as 95% positive and are extremely rewarding to both parent and child (A. N. Schore, 2003). This creates what Daniel Stern (1988) refers to as "crescendo effects." Positive emotions of pleasure and interests are major indicators of affective attunement, and seem to be a

key factor in the development of the attachment bond. The baby becomes attached to the caregiver who expands opportunities for positive affect and minimizes negative affect (Demos & Kaplan, 1986).

Over the course of early childhood, attachment processes appear to play a vital role in the child's self-organization and their emerging capacity to recognize, tolerate, and ultimately self-regulate their emotional states. The ability to self-regulate affective states has far-reaching implications for the overall developmental trajectory and functioning on the individual. As a child struggles to negotiate developmental challenges, exploring and integrating new information in their environment, they must have the ability to regulate their physiological state to learn and engage in goal-directed activity (Blair & Diamond, 2008; Perry & Pollard, 1998; A. N. Schore, 2003). Emotional disequilibrium is an inevitable by-product of exploration (L. A. Sroufe et al., 2005). If child's attempts at exploration and learning are not supported through a secure caregiving relationship, the child's optimal neurodevelopmental trajectory may be hampered; in extreme circumstances, the child may display severely impaired neurological development and subsequent functioning (Perry, 2002). Additionally, as problems in affect regulation are a predominant aspect of all psychopathology (A. N. Schore, 2003; L. A. Sroufe et al., 2005), attachment insecurity is a contributing factor to later problems in functioning. Significant problems in attachment may have serious implications for the mental health and development of the child (Belsky & Fearon, 2002).

While insecure attachment is not, in itself, considered a mental disorder, it does create a significant risk for later psychological and social dysfunction, especially in the case of the disorganized classification (type D). A young child's transactions with their caregivers and extended socio-emotional environment affect not only their mental health trajectory across the

life span, but also influences the enduring structure of the self and the ability to form intimate relationships. The mental representational models that emerge in interactions with early attachment figures organize the child's affects, cognitions, and expectations about future interactions, thereby influencing all subsequent relationships (Bowlby, 1983; Cicchetti & Lynch, 1993; L. A. Sroufe, Carlson, & Shulman, 1993). The ability to engage in healthy relationships, and to utilize these for nurturance, affect regulation, and reflective self-understanding is inextricably tied to healthy functioning throughout the lifespan (Stern, 1988). The earliest rudimentary attachments are typically formed by the age of seven months, through social interactions with significant caregivers, and lead to specific organizational changes in the infant's behavior and brain function (Main & Solomon, 1986). By the end of the first year, the quality of the attachment relationship can be reliably assessed utilizing the Ainsworth Strange Situation (Ainsworth & Bell, 1970; Ainsworth, Blehar, Waters, & Wall, 1978).

Infant attachment can be classified according to three styles, each given a letter designation: avoidant (A), secure (B), ambivalent/resistant (C) (Ainsworth et al., 1978). A fourth style, (D) disorganized/disoriented, was later identified (Main & Solomon, 1986), describing children whose attachment responses appeared incoherent or disorganized; these children are also assigned a secondary class of one of the other three classifications.

From an evolutionary perspective, the primary purpose of the attachment system appears to be to regulate proximity seeking and caregiving. Parents who are emotionally available, sensitive and responsive to their children's needs develop secure attachment relationships with their children. In secure attachment, this system is stable and flexible, allowing the child to receive predictable support, which in turn assists the child in regulating emotions effectively, fostering exploration of the environment, learning, and optimal development. In low-risk

samples (samples with at least moderate SES and the absence of major risk factors for negative developmental outcomes), secure attachment is found in 55-65% of infants. Parents who are inconsistently available or who tend to intrude their own states of mind onto those of their children develop resistant or ambivalent attachments. Ambivalent attachments represent an “overactivation” of the attachment system; as the child is inconsistently provided intermittent support, they increase attachment seeking behaviors (clinging, crying, etc.) to try to gain as much regulation as possible from the caregiver, and dedicate an inordinate amount of attention to seeking or maintaining proximity. These infants seem anxious, are not easily soothed, and do not readily return to play after a separation. In low-risk samples, resistant attachment is found in 5-15% of infants. In avoidant attachment, caregivers are consistently unresponsive, rejecting, or unavailable. There is an “underactivation” of the attachment system; the child is rarely, if ever provided support, leading to external behavior that minimizes proximity seeking. In low-risk samples, avoidant attachment is found in 20-30% of infants (van Ijzendoorn & Bakermans-Kranenburg, 1996). Through adulthood, individuals who were avoidantly attached in infancy are more likely to have difficulty recognizing their emotional states and tolerating negative affect; they are more likely to display “defensive avoidance,” minimizing or denying the emotional experience of both themselves and others (Shaver & Mikulincer, 2002).

The disorganized classification represents a complete breakdown of the attachment system. While the infant needs security and is motivated to seek proximity, the caregiver is frightening or overwhelming to them, so they display conflicted behavioral strategies when seeking support. In returning from separation, they may turn in circles, approaching then avoiding the parent, or entering trance-like or apparently dissociative states (Main & Hesse, 1990). In securely attached mother-child relationships, the mother’s face is regulating to an

infant if she is attuned and responsive to her child's emotional state. In a disorganized infant, the mother's face often displays frightened, frightening, or dissociated affective states. The lack of attuned interaction, and/or the perception of the mother's face as threatening is emotionally dysregulating to the child, and the child will often self-soothe (such as stroking their own body), to regulate themselves while trying to interact with the caregiver. In low-risk samples, disorganized attachment is found in 15% of infants (van Ijzendoorn, Schuengel, & Bakermans-Kranenburg, 1999). In samples of maltreated children, disorganized attachment occurs in up to 80% of cases (Barnett, Ganiban, & Cicchetti, 1999; Cicchetti et al., 2006; Lyons-Ruth, Repacholi, McLeod, & Silva, 1991).

Without effective affect regulation through a secure attachment, the dysregulated states that the infant experiences may become traits when the individual reaches adulthood. Insecurely attached infants may develop emotional problems or behavioral problems that have further consequences for the child's social functioning and mental health (Cicchetti, Ganiban, & Barnett, 1991; A. N. Schore, 2003; L. A. Sroufe et al., 2005).

Research utilizing the Adult Attachment interview (AAI), which classifies an individual's state of mind regarding attachment in four styles analogous to the four classifications seen in infant attachment, has demonstrated that an individual's attachment classification in infancy reliably predicts a consequent AAI classification when the child reaches adulthood in the overwhelming majority of cases (Waters, Merrick, Treboux, Crowell, & Albersheim, 2000). In turn, a parent's Adult Attachment classification has been linked to a subsequent attachment pattern for their own infant in 75% of cases (Posada, Waters, Crowell, & Lay, 1995; van Ijzendoorn, 1995). Attachment classifications appear to be consistently passed down from parent

to child in each generation, and remain stable in the majority of cases. Attachment classifications can change, however, dependent on experiences later in life (Waters et al., 2000).

The following table, compiled by Siegel (1999) illustrates the different infant attachment classifications, the child's behavior in the Strange Situation, and the adult "state of mind" in the Adult Attachment Interview related to attachment classification:

Table 1. Attachment classification and associated strange situation and parenting behavior.

Attachment Classification	Strange Situation Behavior	Parenting Behavior, adult "state of mind" on AAI
Secure (B)	Explores room and toys with interest in pre-separation episodes. Shows signs of missing parent during separation, often crying by the second separation. Obvious preference for parent over stranger. Greets parent actively, usually initiating physical contact. Usually some contact maintaining by second reunion, but then settles and returns to play.	Emotionally available, perceptive, and responsive to their infant's needs and mental states. Coherent, collaborative narrative, valuing of attachment, but seems objective regarding any particular event/relationship. Description and evaluation of attachment-related experiences is consistent, whether experiences are favorable or unfavorable. Discourse has high quality and appropriate quantity.
Avoidant (A)	Fails to cry on separation from parent. Actively avoids and ignores parent on reunion (by moving/turning away, leaning out of arms when picked up). Little or no proximity seeking, no distress, and no anger. Response to parent appears unemotional. Focuses on toys and environment throughout procedure.	Emotionally unavailable, imperceptive, rejecting, and unresponsive with infant. Narrative not coherent. Dismissing of attachment related experiences and relationships. Normalizing ("excellent, very normal mother"), with generalized representations of history unsupported or actively contradicted by episodes recounted. Narrative also tends to be excessively brief.
Ambivalent/resistant (C)	May be wary or distressed prior to separation, with little exploration. Preoccupied with parent throughout procedure, may seem angry or passive. Fails to settle and take comfort in parent on reunion, and usually continues to focus on parent and cry. Fails to return to	Inconsistently available, perceptive, and responsive; tend to intrude their own states of mind onto those of their children. Narrative not coherent. Preoccupied with or by past relationships/experiences, speaker appears angry, passive, or fearful. Sentences often long, grammatically

	exploration after reunion.	entangled, or filled with vague usages (“dadadada,” “and that”), and are often not relevant. Narrative tends to be excessively long.
Disorganized (D)	The infant displays disorganized and/or disoriented behaviors in the parent’s presence, suggesting a temporary collapse of behavioral strategies. For example, the infant may freeze with a trance-like expression, hands in the air; may rise at parent’s entrance, then fall prone and huddled on the floor; or may cling while crying hard and leaning away with gaze averted. Infant will ordinarily otherwise fit A,B, or C categories.	Frightened, frightening, or disoriented communications with infant. During discussions of loss or abuse, individual shows striking lapse in the monitoring of reasoning or discourse. For example, individual may briefly indicate a belief that a dead person is still alive in the physical sense, or that this person was killed by a childhood thought. Individual may lapse into prolonged silence or eulogistic speech. The speaker will otherwise fit into D, E, or F categories.

Note. From Siegel, D. J. (1999). *The developing mind: Toward a neurobiology of interpersonal experience*. New York: Guilford Press.

Throughout the lifespan, attachment security continues to predict positive functioning in three primary domains: 1) emotional insight, regulation, and behavioral difficulties, 2) the development of healthy intimate relationships, and 3) self-esteem and self-efficacy.

Comparative outcomes of securely and insecurely attached infants

There is general agreement that secure attachment serves as a protective factor against psychopathology or the effects of trauma, and that it is associated with a range of healthy personality variables such as lower anxiety, lower depression, less hostility, better resilience, and more effective affect regulation than children who display insecure attachment (Fonagy, 2001). A number of longitudinal studies have demonstrated the influence of attachment insecurity in the etiology of later problems, and secure attachment has been shown to have a positive influence on child functioning through adolescence (Grossmann, Grossmann, & Waters, 2005).

Early Childhood. Attachment security has been found to positively impact a child's ability to self-regulate as early as toddlerhood, when the capacity first develops. In the first year, securely attached dyads demonstrate increasingly contingent and symmetrical co-regulation, which has been linked to improved cognitive and psycho-motor development (Evans & Porter, 2009). In the following toddler years, attachment security predicts improved adaptive emotional expression, as well as emotional regulation through maternal support (Matas et al., 1978; C. L. Smith, Calkins, & Keane, 2006). Securely attached 2 to 3 year-olds demonstrate enhanced social problem-solving skills (Raikes & Thompson, 2008).

Attachment has also demonstrated an ability to reduce the impact of difficult circumstances in early childhood. For example, children who have been placed in foster care demonstrate better emotional regulation if they demonstrate a secure attachment to their foster parents (Oosterman, De Schipper, Fisher, Dozier, & Schuengel, 2010). In a study by Edwards, Eiden, & Leonard (2006), attachment security mediated the relationship between having an alcoholic father and externalizing behavior problems. Attachment security appears to reduce young children's emotional reactivity to stress. In two different samples, one of children placed in foster care, another of children referred for externalizing behavioral problems, children who demonstrate increased attachment security through interventions also demonstrate reduced cortisol production (Bakermans-Kranenburg, van Ijzendoorn, Mesman, Alink, & Juffer, 2008; Dozier, Peloso, Lewis, Laurenceau, & Levine, 2008), a marker of reduced Hypothalamic-Pituitary-Adrenal activation.

In preschool aged children, insecure attachment has been linked to the development of internalizing and externalizing behavioral problems (Burgess, Marshall, Rubin, & Fox, 2003; DeMulder, Denham, Schmidt, & Mitchell, 2000; Keller et al., 2005; Shaw, Keenan, & Vondra,

1994; Wood, Emmerson, & Cowan, 2004). Insecurely attached children display lower ratings of ego resiliency, inability to cope with frustration, and display more negative affect (L. A. Sroufe et al., 1983).

Attachment insecurity is associated with problems in peer relationships and peer rejection (Wood et al., 2004), problems in social competence, and deficits in the development of symbolic play (Bosquet & Egeland, 2006; Erickson, Sroufe, & Egeland, 1985). Avoidant/disorganized children are more likely to be perceived as “mean” by teachers, act aggressively towards parents or peers, victimize their peers, or exhibit hostility. Anxious/resistantly attached children are more likely to have problems with anxiety, poor interpersonal boundaries, or to be victimized by peers (Bosquet & Egeland, 2006; Suess et al., 1992; Troy & Sroufe, 1987).

Conversely, teachers and independent observers judged preschoolers who were securely attached in infancy to have higher self esteem, to positively engage and respond to other children more frequently, and to be more empathetic compared to preschool children with a history of anxious attachment. They displayed greater general knowledge about their own and other’s emotions (Lemche, Klann-Delius, Koch, & Joraschky, 2004; Raikes & Thompson, 2006), and were better at interpreting the emotions, beliefs, and intentions of others than insecurely attached children (McElwain & Volling, 2004). The ability to understand the emotional content of peer interactions has been linked to increased social competence and less aggression towards peers (Denham, Caverly, Schmidt, Blair, DeMulder, Caal, Hamada, & Mason, 2002). Securely attached preschoolers developed more extensive and supportive social networks, and were rated higher on measures of peer competence and acceptance (Bost, Vaughn, Washington, Cielinski, & Bradbard, 1998; DeMulder et al., 2000; Fish, 2004; Rydell, Bohlin, & Thorell, 2005; Szewczyk-Sokolowski, Bost, & Wainwright, 2005). Securely attached preschoolers were more self reliant,

more effective in using adults when appropriate (Colman & Thompson, 2002; Erickson et al., 1985; L. A. Sroufe et al., 1983), and communicated the range of their emotional experiences more effectively than preschoolers with an insecure attachment history (Berlin & Cassidy, 2003).

In problem-solving tasks, preschoolers with secure histories have been judged to be more enthusiastic and self efficacious; they are more task oriented, comfortable with exploration, and less anxious than insecurely attached children (Schieche & Spangler, 2005; Shamir-Essakow, Ungerer, & Rapee, 2005). In several different studies, young children with secure attachment were more persistent in problem solving tasks, increased their efforts when they were presented with the possibility of failure, while insecure children decreased their efforts (Arend, Gove, & Sroufe, 1979; Frankel & Bates, 1990; Lutkenhaus et al., 1985; Matas et al., 1978).

Middle childhood. In middle childhood, those who were securely attached as infants continue to be more likely to be accepted by their classmates and were better at forming close relationships with friends compared to those who were anxiously attached (Bohlin et al., 2005; Kehle, Bray, & Grigerick, 2008; Lucas-Thompson & Clarke-Stewart, 2007). Secure attachment has also been found to allow children in middle childhood to utilize social support more effectively than insecurely attached children when they do experience distress. Securely attached children perceive greater social support (Anan & Barnett, 1999; Kerns, Tomich, & Kim, 2006), which has been shown to mediate the relationship between secure attachment and scores on internalizing and externalizing problems. A similar finding was discovered by Gullone, Ollendick, and King (2006), who found that securely attached children who experienced depression were less likely to withdraw socially, and maintained social engagement and support. Elementary-aged children with insecure attachment histories have been judged to be more dependent on adults, an effect that continued to be present at 15 years (L. A. Sroufe et al., 1983).

Attachment insecurity also continues to be related to difficulties in emotional regulation (Bauminger & Kimhi-Kind, 2008), as well as higher rates of internalizing and externalizing symptoms and behavior problems in middle childhood as reported by both adults and peers (McCartney, Owen, Booth, Clarke-Stewart, & Vandell, 2004; Moss et al., 2006; J. W. Sroufe, 1991; L. A. Sroufe et al., 1993; Vando, Rhule-Louie, McMahon, & Spieker, 2008), including aggressive behavioral problems and bullying (Walden & Beran, 2010). Insecurely attached children also demonstrate a greater risk for depression (Abela et al., 2005) and anxiety (Bar-Haim, Dan, Eshel, & Sagi-Schwartz, 2007). These difficulties in affect regulation may contribute to the difficulties in peer functioning described previously. In recently published longitudinal findings with utilizing a sample of maltreated children, Kim and Cicchetti (2010) found that children's problems in emotional regulation predicted problems in externalizing behavior. Over time, the children with these problems were rejected by their peers, which led to a further increase in externalizing symptoms.

Conversely, securely attached children are judged to be more ego-resilient by teachers and caretakers (Weinfield et al., 1999), and suffer less separation anxiety (Dallaire & Weinraub, 2005). Securely attached children use richer internal state language, and more descriptions of positive emotional experiences (Lemche, Kreppner, Joraschky, & Klann-Delius, 2007). They demonstrate play narratives that are more coherent, characterized by fewer episodes of conflict, and increased discipline, which is related to fewer externalizing behavior problems (Moss, Bureau, Bliveau, Zdebik, & Lpine, 2009).

In middle childhood, insecure attachment may have further implications for school functioning, interfering with children's test-taking behavior and exploration (E. O'Connor & McCartney, 2007). The difficulties in state-regulation experienced by insecurely attached

children are thought to have a detrimental impact on important cognitive processes such as attention (Niederhofer, 2009) and executive functioning (Blair & Diamond, 2008). In addition, the social problems experience by children with insecure attachment appear to take a negative toll on academic achievement, as the school setting becomes increasingly oppressive and uncomfortable (Kehle et al., 2008).

As with younger children, attachment continues to serve as a protective buffer against difficult circumstances experienced by older children. Attachment security appears to mediate the relationship between maternal depression and negative views of the self as well as parents (Toth, Rogosch, Sturge-Apple, & Cicchetti, 2009), may reduce the chance that children who have experienced negative life-events will experience anxiety (Dallaire & Weinraub, 2007), and may reduce the chances that children with alcoholic fathers will bully other children (Eiden, Ostrov, Colder, Leonard, Edwards, & Oorange-Torchia, 2010). While conflict in the parent's marital relationship has been shown to problems in children's social functioning, these problems are reduced when children are securely attached (Lindsey, Caldera, & Tankersley, 2009; Lucas-Thompson & Clarke-Stewart, 2007).

Adolescence. Attachment security in infancy has been shown to be a predictive factor in later adolescent social functioning; adolescents with secure attachment in infancy proved more resilient those with insecure attachment in rebounding from significant life-stressors in preschool and middle childhood. In adolescence, the capacity for intimacy, self-disclosure, and successful functioning in mixed gender peer groups was improved for adolescents who were securely attached as infants (E. A. Carlson, Sroufe, Collins, Jimerson, Weinfield, Henninghausen, Egeland, Hyson, Anderson, & Meyer, 1999). Problems in attachment security have been associated with internalizing problems, such as depression or anxiety, when attachment is

assessed in infancy (Bosquet & Egeland, 2006) or adolescence (Ronnlund & Karlsson, 2006). Attachment insecurity appears to be more predictive of adolescent externalizing behavioral problems than the parents' behavior during adolescence (Bosmans, Braet, Van Leeuwen, & Beyers, 2006).

In adolescence, teens continue to demonstrate expectations of parental responsiveness based on their attachment style (Johnson, Dweck, & Chen, 2007). Attachment security to parents in adolescence is predictive of decreased substance abuse (Kostecky, 2005), while insecurity increases the risk of illicit substance abuse across the lifespan (Caspers, Cadoret, Langbehn, Yucuis, & Troutman, 2005); this finding may be indicative of securely attached children's increased capacity to self-regulate negative affect and cope in healthy ways. Miller, Jennings, Alvarez-Rivera and Lanaza-Kaduce found (2009) that attachment insecurity was related to adolescent criminal/deviant behavior, in part due to its ability to foster affect regulation and self control.

Attachment, maternal sensitivity, and development

Converging with the results of attachment research, data on maternal sensitivity has demonstrated a profound effect on children's development and functioning. As discussed below, maternal sensitivity to infant signals is considered one of the primary factors influencing the development of attachment security, and has been shown to influence a wide array of children's developing cognitive and social-emotional competencies, including affect regulation and stress hormone levels in infancy (Spangler & Schieche, 1994; Spangler, Schieche, Ilg, Maier, & et al., 1994). While healthy maternal sensitivity is not, in and of itself, synonymous with attachment

security, there is a strong relationship between the two. The results of studies on maternal sensitivity may shed some light on the impact of attachment security.

In preschool aged children, higher levels of maternal sensitivity has been shown to influence higher scores in motor, verbal, and perceptual performance at age 4 years, leading to higher composite intelligence (Lewis, 1993) and faster discrimination learning and increased IQ scores also at age 4 years, even when infant skill in information processing and maternal noncontingent attentiveness are partialled out (Bornstein & Tamis-LeMonda, 1989), as well as school achievement at 7 years of age (Bradley, 1989). Maternal sensitivity with infants born prematurely was correlated with fewer teacher-reported behavior problems, and the children chose more pro-social and less aggressive responses on a social problem-solving measure (Goldberg, Lojkasek, Gartner, & Corter, 1989); other studies have demonstrated that maternal sensitivity increases adaptive social problem-solving (Raikes & Thompson, 2008). Conversely, maternal insensitivity has been linked to later behavioral problems. In children from low-income families, insensitivity to male toddlers — particularly those who responded to their mothers with persistent inattention seeking, aggressive acts, and noncompliance — predicted increased disruptive and aggressive behavior at age 3 (Shaw et al., 1994). Children who show indiscriminant engagement with strangers, a feature of avoidant attachment, are more likely to be avoidantly attached at the end of the first year (Volker, 2007), and have aggressive and hyperactive behavioral problems at five years of age (Lyons-Ruth, Bureau, Riley, & Atlas-Corbett, 2009).

Attachment and Psychopathology

Attachment has been shown to be a reliable factor in the development of later psychopathology. Utilizing regression analysis, Sroufe, Carlson, Levy, and Egeland (1999) demonstrated attachment as a predictive factor in the development of later psychopathology; quality of attachment in infancy proved to be more influential than the effect of problems the child experienced in preschool or middle childhood. Other studies have demonstrated a high rate of attachment insecurity assessed in preschool in children later diagnosed with oppositional defiant disorder (M. T. Greenberg, DeKlyen, Speltz, & Endriga, 1997). Attachment problems have been related to the development of conduct disorder in adolescence, as well as anti-social personality disorder and substance abuse in adulthood (Holland, Moretti, Verlaan, & Peterson, 1993). Additionally, anxiety disorders diagnosed at age 17-1/2 were associated with a history of anxious-resistant attachment (Warren, Huston, Egeland, & Sroufe, 1997). Secure attachment may continue serve as a protective factor, reducing the risk of developing psychopathology through adulthood. Attachment security may mediate the relationship between trauma exposure and the development of Post-traumatic Stress Disorder, due to its ability to foster adaptive emotional regulation strategies (Benoit, Bouthillier, Moss, Rousseau, & Brunet, 2010).

The majority of studies examining psychopathology and attachment history have failed to separate the influence of the disorganized/disoriented classification (Main & Hesse, 1990), which may decrease their predictive value. The disorganized classification represents the most severe form of attachment disturbance, and further research is necessary to fully understand what influence it may have on child functioning and development. However, there are several studies that do demonstrate clear deficits for children with disorganized attachment in high-risk settings.

The previously mentioned study by L.A. Sroufe et. al. (1999) found a much higher rate of later psychopathology for children with a disorganized attachment history.

Disorganized attachment in a high-risk group was also found to contribute to infant delays in cognitive development, even when maternal IQ was controlled for (Lyons-Ruth et al., 1991). Cognitively, disorganized children display less-advanced concrete and formal operational problem solving skills (Jacobsen, Huss, Fendrich, Kruesi, & Ziegenhain, 1997; Moss, St-Laurent, & Parent, 1999), as well as problems with inattention (Borelli, David, Crowley, & Mayes, 2010). Additionally, a disorganized attachment history has repeatedly predicted dissociative symptoms into adulthood, even when other factors were controlled for (E. A. Carlson, 1998; Ogawa, Sroufe, Weinfield, Carlson, & Egeland, 1997; van Ijzendoorn et al., 1999). Some authors have argued that disorganized attachment is the primary determinant of whether children will demonstrate dissociate symptoms following maltreatment (Lyons-Ruth, Dutra, Schuder, & Bianchi, 2006).

Disorganized children display marked difficulties in school success, peer relationships. They have lower academic achievement, lower self-esteem, poor peer interactions, unusual/bizarre classroom behavior, and cognitive immaturity. Research has repeatedly found that children with disorganized attachment demonstrate increased depression, anxiety, and externalizing behavioral problems, at higher levels than other form of attachment insecurity. (Borelli et al., 2010; R. Pasco Fearon, Bakermans-Kranenburg, van Ijzendoorn, Lapsley, & Roisman, 2010; J. Green & Goldwyn, 2002; Lyons-Ruth, Alpern, & Repacholi, 1993; Pauli-Pott, Haverkock, Pott, & Beckmann, 2007). Disorganized children display play themes are characterized by catastrophe, violent fantasies, helplessness, or complete inhibition (Carol

George & Solomon, 1996), and they display increased Hypothalamic-Pituitary-Adrenal reactivity (Hertsgaard, Gunnar, Erickson, & Nachmias, 1995).

In childhood their relationships are often characterized by aggressive and controlling behavior. Lyons-Ruth, Connell, and Zoll (1989) found that, in a high social risk sample with many depressed caregivers, preschoolers with a disorganized attachment were 6 times more likely to be rated as hostile than those with a secure attachment. In kindergarten, children with a disorganized attachment in addition to a parent with psychosocial problems were 11 times more likely to display hostile behavioral problems than children with a secure attachment. Shaw, Owens, Vondra and Keenan (1996) also found increased predictive power for the effects of disorganized attachment in a high-risk sample. Kindergarteners were more likely to have clinically elevated scores on the Child Behavior Checklist aggression scale dependent on attachment classification: while 17% of secure children had elevated levels of aggression, 28% of ambivalent, 31% of avoidant, and 60% of disorganized children had clinically elevated aggression. It appears that disorganized attachment in infancy may interact with continued problems in the parent-child relationship to produce later behavioral problems. Kochanska, Barry, Stellern, and O'Bleness (2009) found that children with disorganized attachment had parental interactions in preschool characterized by dominance and the assertion of power. These interactions subsequently led to oppositional and antisocial behavior.

Attachment and Risk Factors

Insecure attachment does not, in itself, appear to cause later pathology, but it does appear to be a significant risk factor in pathogenesis. Research that utilized low-risk samples has demonstrated no significant main effects with regard to attachment (De Wolff & van Ijzendoorn,

1997), while studies with high-risk samples clearly demonstrate a relationship between attachment insecurity and later problems. The fact that attachment has a stronger influence on child outcomes in high risk samples indicates that it serves primarily as a protective factor, allowing children to cope with stress or adverse life events, such as trauma, more effectively (Egeland & Kreutzer, 1991). Securely attached children are more resistant to stress, and are more likely to rebound following a period of behavioral difficulty (Pianta & Egeland, 1990; Ward & Carlson, 1995). Secure attachment can be seen as a protective factor against the development of pathology in the face a stressful events.

As with other developmental risk factors, there is an exponentially increasing rate of pathology when attachment insecurity is paired with multiple risk factors (M. T. Greenberg et al., 1997; Sameroff, Seifer, Zax, & Barocas, 1987). As discussed below, risk factors have been found to contribute to the development of attachment insecurity, in addition to the subsequent problems in child outcomes. Problems in functioning are especially pronounced when disorganized attachment and risk factors are compounded, although it is difficult to separate these two factors; disorganized attachments have a much higher prevalence in parents with psychopathology, abuse, depression, or very high social risk (V. Carlson, Cicchetti, Barnett, & Braunwald, 1989; Lyons-Ruth, Connell, Zoll, & Stahl, 1987).

Causes of Insecure Attachment

Research findings have provided information about factors that underlie secure and insecure attachment relationships -- information that has important implications for the development of prevention and intervention programs aimed at promoting secure attachments and preventing long-term problems associated with insecure attachment. Several factors have

been proposed to explain individual differences in attachment security. Broadly, these factors can be separated into three categories: 1) contributions of the child to the attachment relationship, such as temperament, 2) contributions of the parent, such as sensitive responsiveness to the child or 3) contextual issues that impact with the child-parent relationship.

Child Factors

Infant temperament. While it is difficult to identify whether an infant's observed characteristics are due to inherent temperament or the relationship with the caregiver, there is scant evidence that infant temperament significantly influences attachment security. In an excellent review, Vaughn and Bost (1999) recently examined 112 studies that tested a direct relationship between attachment security and infant temperament. These studies failed to show a link between the two. Three of the studies, however, provided some evidence of an interaction between contextual factors and temperament. Infants who were rated as highly irritable were likely to develop an insecure attachment if they were in low resource environments (low SES or low maternal social support). It appears that infant temperament may influence attachment security, but only in the case of highly irritable infants in deprived environments. While infant temperament may not play a large role in the development of secure attachment, it may play a role in the type of attachment insecurity that appears (Susman-Stillman, Kalkose, Egeland, & Waldman, 1996) or the type of behavioral problems that manifest later following a history of attachment insecurity (Burgess et al., 2003; Keller et al., 2005; Pierrehumbert, Miljkovitch, Plancherel, Halfon, & Ansermet, 2000).

Genetic factors. Aside from the slight role temperament appears to play in attachment formation, there is scant evidence that overall attachment security is related to other child factors,

such as genetic influences. In a study of 157 mono and dizygotic twins, Bokhorst, Bakermans-Kranenburg, Fearon, van IJzendoorn, Fonagy, and Schuengel (2003) found that the variance in attachment security could only be explained by shared environment, unique environmental variables, or sampling error; genetic factors had a negligible impact. In further support of Vaughn & Bost's (1999) findings, they found that while genetic factors accounted for 77% of the variance in temperamental reactivity, temperamental reactivity was not associated with attachment concordance. Fearon, Van IJzendoorn, Fonagy, Bakermans-Kranenburg, Schuengel, and Bokhorst (2006) also found that that genetic factors had no influence on attachment security in a sample of 137 twins. Most recently, Roisman and Fraley (2008) found similar results; while genetic influences predicted child temperament, they did not predict attachment security.

Despite these findings, there is some evidence demonstrating that genetic factors may interact with parental behavior in the formation of disorganized attachment in particular. Van IJzendoorn and Bakermans-Kranenburg (2006) found that genetic factors mediated the formation of disorganized attachment in children raised by mothers with unresolved trauma or loss. Gervai et. al. (2007) later found that disrupted maternal communications only predicted disorganization in infants with specific genetic risk factors. Most recently, Spangler, Johann, Ronai, and Zimmermann (2009) found that the formation of disorganized attachment was genetically influenced, but only in infants of mothers exhibiting low maternal responsiveness. In a related finding, Gilissen, Bakermans-Kranenburg, IJzendoorn, & Linting (2008) found that the relationship between a genetic vulnerability to a reactive stress response was mediated by attachment status. Taken together, these findings indicate that disorganized attachment is formed through the interaction of genetic vulnerabilities and atypical or unresponsive parenting

behavior. In children without these vulnerabilities, unresponsive caregiving is more likely to lead to resistant or avoidance attachment classifications.

Parental Factors

Maternal sensitivity. Maternal sensitivity has conclusively been linked to the development of secure attachment (van Ijzendoorn, Juffer, & Duyvesteyn, 1995), as well as direct outcomes for the child. Ainsworth et al. (1978) defined sensitivity as “a parent's ability to perceive and interpret accurately the signals and communications implicit in the infant's behavior, and given this understanding, to respond to the signals appropriately and promptly.” In her initial study, Ainsworth found sensitive and responsive care to be a critical element in the development of a secure attachment, a finding that has been repeatedly replicated in subsequent research (Bergin & McCollough, 2009; Fuertes, Lopes-dos-Santos, Beeghly, & Tronick, 2009; Higley & Dozier, 2009; Kennedy, 2008; Long, 2009; Moran, Forbes, Evans, Tarabulsky, & Madigan, 2008). Maternal sensitivity continues to predict attachment security throughout childhood, and mothers appear to maintain similar levels of sensitivity over time (Bigelow, MacLean, Proctor, Myatt, Gillis, & Power, 2010). A meta-analysis conducted by DeWolf and van IJzendoorn (1997) provided strong evidence of maternal sensitivity as a major influence on attachment security. Improving sensitivity has subsequently provided the rationale for a number of attachment interventions (Egeland & Farber, 1984; Isabella, 1993; Ward & Carlson, 1995; Zeanah, 1993).

Maternal sensitivity appears to be especially important in high-risk environments. In one study, an intervention that was able to effectively increase maternal sensitivity in a high-risk sample was able to increase secure attachment from 28% to 68% (van den Boom, 1995) a large

effect that has been replicated in several other studies (Bakermans-Kranenburg et al., 2003; van IJzendoorn et al., 1995). However, the review conducted by DeWolf and van IJzendoorn (1997) found only a moderate correlation between attachment security and parental sensitivity ($r=.24$), which indicates that other factors may contribute to the formation of secure attachment; sensitivity appears to play a more important role in high-risk environments, as sensitivity is more predictive of attachment security in low-SES populations.

Attachment representations. Some of the best evidence for the influence of parental factors on attachment security are the results of studies utilizing the *Adult Attachment Interview* (AAI) (C. George, Kaplan, & Main, 1985). The AAI classifies parents according to 4 attachment representations, sometimes referred to as the parent's "state-of-mind" in regard to attachment, that are analogous to the four classifications given to infants through the strange situation. Parental attachment representations on the AAI have been demonstrated in a number of studies to accurately predict the specific attachment classification of the parent's children in 75% of cases, and there is a substantial correlation between parental AAI classification and sensitive responsiveness to their children (van IJzendoorn, 1995). The predictive power of AAI classifications are based solely on the coherence of the parent's narrative of their own childhood; AAI interviews can accurately predict attachment security even before the child is born. As determined by the AAI, a parent's unresolved trauma or loss seems to be the seminal factor in forming a disorganized attachment with their child, the most severe form of attachment insecurity (Madigan et al., 2006). Additionally, parents with unresolved trauma react to their infants in a frightened or frightening manner (such as baring their teeth), misinterpret the child's communication, and may enter trance-like/dissociative states in dyadic interaction.

Fonagy, Gergely, Jurist, and Target (2002) have argued that insecure parent's internalized attachment representations interfere with the parent's ability to accurately and coherently represent the mind of the infant, which is necessary to respond sensitively to the child's emotional needs. This capacity is often termed "reflective function;" it is the parent's ability to represent the complex mental state of the child, including their emotions, desires, and intentions. Reflective function can be seen, in part, as the basis for maternal sensitivity, as the parent would have to attribute complex emotions, desires, and intentions to the child's cues to respond to them effectively. Beyond maternal sensitivity, reflective function may have deeper implications for the emerging self of the child. Infants utilize the parent's mind to regulate their affect and organize their experience (A. N. Schore, 2003); the coherency of the parent's state of mind will have a clear impact on the infant's developing self. To effectively reflect the child's emotional state back to the child the parent must be able to create an internal, coherent representation of the child's state of mind, while also maintaining a coherent state of mind themselves. In particular, unresolved trauma and loss seems to seriously impact the parent's ability to accurately and coherently represent the mind of the infant, as well as making it difficult to tolerate and hold the child's negative affective states. Insecure classifications on the AAI have been directly linked to deficits in reflective function (Ammaniti, Tambelli, Zavattini, Vismara, & Volpi, 1999). In addition to the results of the AAI, there is growing evidence that the tendency to think about and consider the child's emotional state contributes to secure attachment, even in the presence of other risk factors (Schechter, Coots, Zeanah, Davies, Coates, Trabka, Marshall, Liebowitz, & Myers, 2005). Distorted representations of the child have also been found to predict problems in mother-infant interaction (Korja, Ahlqvist-Bjrkroth, Savonlahti, Stolt, Haataja, Lapinleimu, Piha, & Lehtonen, 2010).

This tendency may impact the child's social competence and ability to understand the minds of others (Meins, Fernyhough, Wainwright, Clark-Carter, Gupta, Fradley, & Tuckey, 2003). In infancy, positive mother-infant positive interactions trigger the activation of the anterior orbito-frontal cortex, and probably foster its subsequent development. This has been strongly related to affect regulation, as well as empathy and positive social interactions (Minagawa-Kawai, Matsuoka, Dan, Naoi, Nakamura, & Kojima, 2009). Securely attached mothers utilize more mental-state language, which leads their children to demonstrate greater emotional insight (McQuaid, Bigelow, McLaughlin, & MacLean, 2008). Children with a secure attachment history are better at interpreting the emotions, beliefs, and intentions of others than insecurely attached children. Securely attached children are better at tasks testing theory of mind, which test the accurate understanding of the emotions, motivations, and perceptions of others (Symons & Clark, 2000). Securely attached children demonstrate more pretend play, understanding of emotions, mind reading, fantasy, and are better able to incorporate pretense, and labeling their own emotions, while insecurely attached children display less mental state language (Lemche et al., 2004; Meins & Fernyhough, 1999; Meins, Fernyhough, Russell, & Clark-Carter, 1998; Steele, Steele, Croft, & Fonagy, 1999). This ability appears to be fostered in children through the development of emotional insight in interaction with the mother; children whose mothers talk about emotion are better at mentalizing (Fonagy et al., 2002; Meins et al., 1998).

In the few studies that directly examined reflective functioning, ratings of the quality of reflective function in the caregiver independently predict attachment security (Fonagy, Steele, & Steele, 1991; Muscetta, Bovet, Candelori, Mancone, & Speranza, 1999; Slade, Grienenberger, Bernbach, Levy, & Locker, 2005). A study by Meins, Fernyhough, Fradley, and Tuckey (2001)

found that maternal sensitivity and appropriate mind-related comments were somewhat predictive of attachment security at 12 months, respectively accounting for 6.5% and 12.7% of its variance. In a study by Koren-Karie, Oppenheim, Dolev, Sher, and Etzion-Carasso (2002), mothers classified as “positively insightful” into their infant’s internal emotional experience were rated as more sensitive, and were more likely to have securely attached children than were mothers not classified as positively insightful. Insightfulness also accounted for variance in attachment beyond the variance explained by maternal sensitivity. However, Laranjo, Bernier, and Meins (2008) demonstrated conflicting findings in a more recent study. Utilizing mediation analysis, it was found that the relationship between maternal mind-mindedness and attachment was completely mediated by the impact of mind-mindedness on maternal sensitivity.

Other parental risk factors. Some studies have found that contextual risk factors may impact the influence of maternal attachment representations; children raised by mothers with insecure attachment representations are more likely to form an insecure attachment if they are raised in a high-risk environment (Huth-Bocks, Levendosky, Bogat, & von Eye, 2004a). There are several risk factors that have been correlated with insecure attachment, believed to compromise the parent’s ability to support the child physically or emotionally. Certain risk factors have been found to increase the rate of insecure attachment significantly, especially the rate of disorganized attachment patterns. The most serious of these risk factors is child maltreatment (Weinfield et al., 2004). Early childhood is a particularly vulnerable time in a child’s development; rates of child abuse are inversely related to the age of the child (Department of Health and Human Services, *Child maltreatment*, 2004). With the exception of boys in their late teens, children in the United States are more likely to be killed in their first two years than any other time in their lives (Snyder & Sickmund, 1999). The higher rates of

attachment insecurity in low-SES samples may be primarily due to the higher incidence of child maltreatment in these samples; similar proportions of insecure attachment classifications have been found in low-SES and high-SES populations when known cases of maltreatment or neglect are factored out (Spieker & Booth, 1988).

Maltreated infants are far more likely to develop a disorganized attachment (Barnett et al., 1999; Lyons-Ruth & Jacobvitz, 1999; van Ijzendoorn et al., 1999), and are less likely to change from an insecure to secure classification as childhood progresses (Barnett et al., 1999; Weinfield et al., 2004). For example, in a low income sample, Carlson, Cicchetti, Barnett, and Braunwald (1989) found that infants who had been maltreated had an 82% disorganized rate, while 18% of non-maltreated did. Converging with the results of studies examining attachment and child maltreatment, parents who display frightened or frightening behavior are far more likely to have children who display disorganized attachment (Lyons-Ruth, Bronfman, & Parsons, 1999; Main & Hesse, 1990).

Another major risk factor in the development of insecure, and especially disorganized attachment, is parental mental illness (Erickson et al., 1985; Pianta & Egeland, 1990). The majority of research examining attachment and parental mental illness have focused on maternal depression, which has been shown to increase the frequency of insecure attachment in several studies. Depressed mothers have difficulties in responding sensitively and contingently to their infants, providing optimal levels of stimulation, or engaging the child's attention (Carter, Garrity-Rokous, Chazan-Cohen, Little, & Briggs-Gowan, 2001), they show less positive and more negative affect and behaviors when interacting with their children from infancy through childhood (Campbell, Cohn, & Meyers, 1995; Cohn, Campbell, Matias, & Hopkins, 1990; Kelley & Jennings, 2003; Lovejoy, Graczyk, O'Hare, & Neuman, 2000; Radke-Yarrow et al.,

1993a). Chronic and severe depression resulting in significant clinical impairment predicts higher rates of disorganized attachment, and this result is exacerbated in the presence of other risk factors (Campbell, Brownell, Hungerford, Spieker, Mohan, & Blessing, 2004; Lyons-Ruth, Connell, Grunebaum, & Botein, 1990).

In addition to depression, a greater frequency of insecure attachment has been found in the children of parents with bi-polar disorder and anxiety disorder and the majority of the attachment classifications were disorganized (type D) in both groups (M. T. Greenberg, 1999). Mothers with borderline personality disorder have demonstrated marked intrusiveness and insensitivity in interaction with their children, and their infants demonstrate less positive affect and availability for interaction (Inoff-Germain, Nottelmann, & Radke-Yarrow, 1992; Radke-Yarrow, Nottelmann, Martinez, Fox, & et al., 1993b); borderline personality disorder has been shown to greatly increase the risk of insecure, and especially disorganized attachment (Crandell, Patrick, & Hobson, 2003; Hobson et al., 2005).

Contextual Risk Factors

Certain risk factors in the child's environment have been found to be predictive of insecure attachment. Low socio-economic status (SES) has been linked to attachment insecurity in a number of studies (Bakermans-Kranenburg et al., 2004; De Wolff & van Ijzendoorn, 1997; Diener et al., 2003; Fish, 2004; Lyons-Ruth et al., 1991; van Ijzendoorn et al., 1999). However, the impact of SES on attachment security appears to be due to the preponderance of comorbid risk factors that occur in low-SES populations. For example, Spieker and Booth (1988) found similar rates of attachment insecurity in low-SES and high-SES populations after known cases of child maltreatment and neglect were factored out. In their sample, low-SES was only linked to

attachment insecurity because of the high rate of comorbid child maltreatment associated with low-SES. Further studies have confirmed that maltreatment strongly predicts attachment insecurity, and disorganized attachment in particular (Baer & Martinez, 2006). With the exception of maltreatment, no risk factor in isolation has demonstrated a clear or consistent increase in the frequency of insecure attachment. However, when two or more of these factors occur together, the likelihood of the baby developing an insecure attachment to the mother increases significantly (Cyr, Euser, Bakermans-Kranenburg, & van Ijzendoorn, 2010; Diener et al., 2003; Fish, 2001). Each of these variables, reviewed below, may be considered a risk factor by making it more difficult for the mother to respond sensitively to her baby, impacting her emotional availability (Colin, 1991).

Following child maltreatment, the most potent factors affecting attachment security are caregiver life stress (Egeland & Sroufe, 1981; M. T. Greenberg, 1999; Spieker & Booth, 1988; Weinfield et al., 2004), instability associated with extreme poverty (Fish, 2001), and lack of social support (Crittenden, 1985; Diener et al., 2003; Fish, 2001; Huth-Bocks et al., 2004a). Attachment patterns between 12 to 18 months changed significantly with changes in caregiver life-stress (Egeland & Farber, 1984; Vaughn, Egeland, Sroufe, & Waters, 1979). Additionally, a poor parental relationship or conflict has been found to predict insecurity in a number of studies (Erel & Burman, 1995; Finger, Hans, Bernstein, & Cox, 2009; Tarabulsky et al., 2005), while high marital quality and a positive coparenting relationship demonstrates a positive impact on attachment security, especially between children and their fathers (G. L. Brown, Schoppe-Sullivan, Mangelsdorf, & Neff, 2010; Wong, Mangelsdorf, Brown, Neff, & Schoppe-Sullivan, 2009). Akin to these findings, domestic violence has been demonstrated to increase the likelihood of insecure and disorganized attachment in several studies (Holtzworth-Munroe,

Stuart, & Hutchinson, 1997; Huth-Bocks, Levendosky, Theran, & Bogat, 2004b; Lyons-Ruth & Block, 1996; Quinlivan & Evans, 2005).

A variety of other parental or contextual factors have also been found to impact attachment security. Maternal negative personality characteristics, such as anger, depression, hostility, and low self-esteem, as well as parental lack of education have been associated with increased risk for attachment insecurity, while the presence of toys in the home and positive beliefs about education and play have been associated with increased rates of attachment security (Diener et al., 2003; Fish, 2001).

Finally, preliminary data on maternal alcoholism or substance abuse has been found to increase the likelihood of insecure (Quinlivan & Evans, 2005; Seifer, LaGasse, Lester, Bauer, Shankaran, Bada, Wright, Smeriglio, & Liu, 2004), and in some cases, disorganized attachment (M. J. O'Connor, Sigman, & Brill, 1987; Rodning, Beckwith, & Howard, 1989, 1991). Further study will be necessary to determine what effects parental substance abuse will have on attachment, but many studies on substance abuse and maternal sensitivity have demonstrated a seriously negative effect on mother-infant interactions, which indicate an increased probability of attachment problems (K. Burns, Chethik, Burns, & Clark, 1991; K. A. Burns, Chethik, Burns, & Clark, 1997; Gottwald & Thurman, 1994; Mayes, Feldman, Granger, Haynes, Bornstein, & Schottenfeld, 1997; Nardi, 1994).

The Development of Effective Interventions to Address Attachment Disturbance

The importance of addressing and treating attachment disturbances in early childhood has only gained popular attention within the last few decades. However, the field of infant mental health began much earlier through broad multidisciplinary influences, including evolutionary

theory, psychoanalysis, attachment theory, systems theory, and developmental research, a multidisciplinary tradition that continues today (Fitzgerald & Barton, 1999). The importance of emotionally supportive care giving in early childhood was conclusively demonstrated through the pioneering work of John Bowlby, Harry Harlow, and Rene Spitz (1965). Spitz initially began to use the term “infant psychiatry” in 1950, setting the stage for infant interventions to emerge as a specialized subfield.

Infant mental health began to directly explore interventions with infants as early as the mid-1970s through the pioneering work of Selma Fraiberg and Stanley Greenspan. Fraiberg was one of the first to develop a model of clinical intervention to address attachment issues in infancy. In a classic paper, Fraiberg, Adelson and Shapiro (1980) coined the phrase *ghosts in the nursery* to describe the influence of the parent’s early childhood experiences on their caregiving behavior with their infant. Around the same time, Greenspan and colleagues founded the Clinical Infant Development Program (CIDP), a collaboration between the National Institute of Health and Family Service of Prince Georges County, Maryland. The program developed interventions for infants in multi-problem families, targeting child development and caregiving behavior. From the early beginnings of the field, it was clear that parental risk factors, among them poverty, mental illness, substance abuse, and trauma, had a negative impact on their children’s functioning, as well as their engagement in services (Fraiberg et al., 1980; Greenspan, 1982). The field of infant mental health has grown dramatically from these early beginnings, current interventions are drawn from a wide array of perspectives and practices, including home visitation programs, cognitive-behavioral practices, and psychodynamic theory.

In spite of this theoretical diversity, there are several striking commonalities across programs. An early review of infant and early childhood mental health approaches,

commissioned by the U.S. Department of Health and Human Services, identified five factors to be paramount for effective interventions. These were: 1) The mother's sensitive responsiveness to the baby is the major focus of the program, 2) Psychotherapy addresses conflicts from the mother's past which affect her current behavior toward her baby, 3) Therapist visits the family once a week for one year, 4) Practical supports are considered for the mother (child care, medical care, foodstamps, housing, transportation, and 5) The intervener establishes a trusting relationship with caregiver, especially in multi-cultural, high risk populations (Colin, 1991). The majority of programs subscribed to an ecological view, such as the models described by Bronfenbrenner (1977) and his student, Belsky (1980), to conceptualize how contextual factors influence the child through their impact on parenting. In all programs, the aim of treatment was to enhance the relationship between the child and mother, to increase the parent's insight into their child's emotions and cues, as well as the parent's own emotional response during these interactions.

The ingredients of empirically supported interventions for early childhood generally attempt to address the causal factors linked to attachment insecurity: contextual risk factors, maternal insensitivity, and insecure parental attachment representations. To address contextual risk factors, many have utilized case management, incorporating social work and intensive home visitation models, especially in populations with multiple risk factors. Psychotherapeutic strategies can generally be divided between two different groups, each focusing on the last two causal factors; these strategies are sometimes referred to as behavioral and representational approaches (van Ijzendoorn et al., 1995). In behavioral approaches, interventions attempt to change attachment by increasing maternal sensitivity and response to infant cues, through coaching or guiding the parent's behaviors in interaction with the child. Examples of these

interventions are Interaction Guidance (McDonough, 1993) and Parent-Child Interaction Therapy (Eyberg, Boggs, & Algina, 1995). The majority of representational approaches have their roots in Bowlby's original theory (Bowlby, 1983), and attempt to change the parent's attachment representations and internal working model of the child. Although these approaches also offer developmental guidance and address interaction between the mother and infant, they tend to be less directive or structured. In addition, they address the parent's history of trauma or loss, and link this to the current patterns in interaction. An example of this type of intervention is Infant-Parent Psychotherapy (Lieberman & Pawl, 1993). Other interventions utilize a combination of these two approaches. Examples of combined approaches include Watch, Wait, and Wonder (Muir, 1992), Relational Psychotherapy Mother's Groups (Luthar & Suchman, 2000), and the Circle of Security Program (Marvin, Cooper, Hoffman, & Powell, 2002).

The heterogeneity of these approaches can be explained by the uncertainty surrounding which of attachment security's causal factors are the most important in the transmission of security. The different causal variables that have been proposed have only demonstrated moderate effect sizes; none of them seem to fully explain the transmission of attachment security. The impact of different intervention strategies also does not seem to indicate a clear causal mechanism. While maternal sensitivity clearly plays a significant role, and is more predictive of attachment security than any other single factor, the previously mentioned meta-analysis by DeWolf and van IJzendoorn (1997) found only a moderate effect size, $r(1067) = .24$, for sensitivity in accounting for attachment security, and it appears to have an even smaller effect in disorganized attachment ($d = .19$) (van Ijzendoorn et al., 1999). A follow-up study came to virtually the same findings (Raval, Goldberg, Atkinson, Benoit, Myhal, Poulton, & Zwiers, 2001). However, Nievar and Becker (2008) recently re-analyzed the original data examined by

DeWolf and van IJzendoorn and concluded that the original analysis had underestimated the influence of maternal sensitivity, although it continued to be a weak predictor of attachment in low-income families.

To further examine other potential causes of the transmission gap for disorganized attachment, Madigan, Bakermans-Kranenburg, Van IJzendoorn, Moran, Pederson, and Benoit (2006) recently conducted a meta-analysis of 12 studies that involved 851 families, examining the interaction between unresolved states of mind, frightened or frightening parental behavior, and disorganized attachment. They found moderate relationships between unresolved states of mind and anomalous behavior ($r=.26$), unresolved states of mind and infant disorganized attachment relationships ($r=.21$), and anomalous behavior and disorganized attachment relationships ($r=.34$). However, they found that only a small part of the relationship between unresolved states of mind and disorganized attachment was mediated by anomalous parental behavior.

Meta-analysis examining treatment interventions have also found mixed results when analyzing the effect of improved sensitivity on increasing attachment security. In an initial meta-analysis, interventions that were able to demonstrate a moderate-large effects for improving maternal sensitivity ($d = .58$) demonstrated only weak effects in improving attachment security ($d = .17$) (van IJzendoorn et al., 1995). However, a subsequent meta-analysis (discussed below) demonstrated a larger impact for the role of maternal sensitivity. These somewhat contradictory results indicate that while maternal sensitivity can be considered an important factor in the transmission of attachment security, it is not the only causal factor. As discussed previously, the strength of parental AAI classifications in predicting attachment security is quite large ($d = 1.06$) (van IJzendoorn, 1995). This seems to indicate that other parental factors, such as parental

attachment representations, unresolved trauma, or unresolved loss may have an impact on their children's attachment security, and therefore could be an important focus of intervention. Van Ijzendoorn and Bakermans-Kranenburg (1997) have argued for an examination of contextual factors to account for the remaining variance in attachment transmission, and some preliminary results demonstrate that the transmission of attachment security can be partially accounted for by examining contextual factors, such as life-stress or low social support, in conjunction with maternal sensitivity (Sagi, van Ijzendoorn, Scharf, & Joels, 1997; Tarabulsky et al., 2005), or the effect of contextual factors on attachment representations (Huth-Bocks et al., 2004a).

Efficacy of Specific Ingredients in Attachment Interventions

A review of empirically supported treatments for children seems to indicate that regardless of theoretical approach, effective interventions do have one common factor: interactions between the parent and child are a component, if not the focal point of treatment. While addressing parent-child interactions may be an important aspect of effective interventions with older children, it may be a vital component in early childhood interventions. Attachment findings clearly demonstrate that the social-emotional development and mental health of young children are inextricably bound to their relationships and transactions with primary caregivers.

As discussed above, attachment interventions attempt to foster positive parent-child interactions through addressing the causal factors linked to attachment insecurity: contextual risk factors, maternal insensitivity, and insecure parental attachment representations. This is accomplished through three main strategies: behavioral coaching and guidance focusing on parental sensitivity, attempting to alter attachment representations through psychodynamic or

insight oriented therapy, and providing case management and linkage to services providing concrete support. While there are considerably fewer studies examining psychotherapeutic interventions in early childhood than those examining empirically supported treatments for specific diagnosis in later childhood, research has progressed far enough to allow for evaluation of different approaches. Bakermans-Kranenburg, van Ijzendoorn, and Juffer conducted two meta-analyses examining the role of these three ingredients in impacting attachment security in general (2003), and disorganized attachment in particular (2005).

In their initial analysis, they analyzed the outcomes of 70 studies that evaluated the efficacy of interventions targeting maternal sensitivity and attachment security, producing 88 intervention effects for sensitivity ($n = 7,636$) and/or attachment ($n = 1,503$). The analysis classified studies by whether they focused on addressing parental sensitivity (Sn), attachment representations (Rp), or concrete support (Santiago et al.), and also classified combinations (Sn + Rp; Sn + CS; Rp + CS; and Sn + Rp + CS), resulting in 7 classes of intervention. Interventions that focused on maternal sensitivity alone were substantially more effective ($d = .64, p < .001$) in improving sensitivity than those that focused on providing support and addressing representations ($d = .46, p < .05$), providing support and addressing sensitivity ($d = .28, p < .001$), or simultaneously providing support, addressing sensitivity, and addressing attachment representations ($d = .40, p < .001$). In multi-problem samples, however, multiple approaches seemed to have equivalent effects on maternal sensitivity across treatment types. Addressing sensitivity, representations, as well as providing support had roughly equivalent effects ($d = .52, p < .01$) to sensitivity alone ($d = .48, p < .001$), while addressing representations and support also demonstrated substantial, but smaller effects ($d = .26, p < .001$). Despite demonstrating an impact on maternal sensitivity in different combinations of treatment ingredients, when

examining the impact of treatment type on attachment security, only those treatments that focused on sensitivity alone demonstrated significant effects on attachment security ($d=.39$, $p < .01$). Additionally, only those treatments that were able to have at least a moderate impact on maternal sensitivity ($d > .40$) were able to translate that impact into improved attachment security. It should be noted that significant effects for attachment security were not found for samples that were clinic referred or multi-risk, although significance did not differ by socio-economic status.

In a subsequent meta-analysis, Bakermans-Kranenburg et. al. (2005) examined the impact of interventions on disorganized attachment in particular. As disorganized attachment is a relatively new construct (Main & Solomon, 1986), and few studies have examined interventions to address it, only 15 studies were included ($n = 842$). Again, interventions that focused on sensitivity alone were able to demonstrate significant impact on reducing disorganized attachment ($d = .26$, $p < .05$). However, it is unclear what treatment components may be important in addressing disorganized attachment. There were not enough studies to examine what combinations of specific ingredients (sensitivity, representations, or support) may have had in reducing the disorganized classification. The three studies that incorporated addressing maternal sensitivity with support also appeared promising, with effect sizes ranging from .16 to .36. While these meta-analyses shed some light on treatment factors that may positively influence outcomes, it is important to note that results obtained through meta-analyses may be a result of measurement error, obscuring the impact of individual studies that may be particularly instructive. For this reason, it is especially important to consider well-designed, controlled studies similar the findings described below.

More recently, Cicchetti, Rogosch, and Toth (2006) studied the impact of targeting maternal attachment representations versus maternal behavior more directly. The authors noted that the meta-analysis conducted by Bakermans-Kranenburg et al. (2005) only included three randomized studies that involved intensive interventions with multi-problem families. In their study, a sample of 137 families with a record of maltreatment were randomly assigned to one of three conditions: Infant-Parent Psychotherapy (IPP), which targeted maternal attachment representations, a Psychoeducational Parenting Intervention (PPI), which targeted maternal behavior and provided developmental guidance, and the community standard (CS) intervention through the Department of Social Services. An additional low-income control group with no incidence of abuse was also examined. Both the IPP and PPI interventions demonstrated large effects when compared to the CS group; over half of the families changed from an insecure to a secure attachment. Additionally, both IPP and PPI demonstrated a strong ability to reduce the rate of disorganized attachment, from over 80% pre-intervention to 28% and 36% post-intervention, respectively. The two methods of intervention appeared to be equally effective, while both IPP and PPI demonstrated significant effects when compared to the CS group, there were no significant differences when compared to each other.

In addition to addressing aspects of the parent-child relationship, research in parent-child interventions with older children has also demonstrated that addressing contextual factors in treatment may play a role in improving outcomes for the child, as well as playing a role in treatment completion (Kazdin, Holland, & Crowley, 1997; Kazdin et al., 2005; Kazdin & Wassell, 1999). A recent meta-analysis examining factors influencing outcomes in parent-efficacy training found a number of contextual variables that negatively impacted the impact of the intervention, including maternal mental health issues, severity of the child's behavior, lack of

education, and single parenting, among others. The most powerful variable was low-income ($r = .52$). However, low-income only had a moderate impact on treatment attendance, which appears to indicate that outcomes were dampened by a combination of continuing life-stressors and treatment attrition (Reyno & McGrath, 2006).

Reducing parental life stress as a part of treatment has also been demonstrated to improve outcomes in parent-child interventions. As discussed previously, parental-life stress negatively impacts attachment security. In a study by Kazdin and Whitley (2003) examining outcomes for 127 children referred for aggressive behavioral problems, a parent-stress intervention paired with parent management training improved outcomes for the parent ($d = .50$, $p < .001$), reduced child behavioral issues ($d = .45$, $p < .001$), and reduced perceived barriers to treatment ($d = .35$, $p < .01$) compared to parent management training alone.

Across studies, it appears that behavioral approaches targeting maternal sensitivity have demonstrated the most consistent results in improving attachment security, and ultimately, child outcomes. These results are similar to commonalities found in other empirically supported treatments for older children, especially those targeting behavioral difficulties. ESTs for children (e.g., Parent Management Training, Parent-Child Interaction Therapy) tend to incorporate parental involvement, and to behaviorally target parent-child interactions as a focus of treatment.

While behaviorally targeting maternal sensitivity appears effective, it would be premature to conclude that it is the only, or even the most important ingredient in attachment interventions. Some recent studies have demonstrated improvement in maternal sensitivity, but have failed to demonstrate a subsequent change in attachment security (Kalinauskiene, Cekuoliene, van Ijzendoorn, Bakermans-Kranenburg, Juffer, & Kusakovskaja, 2009; Van Zeijl, Mesman, van Ijzendoorn, Bakermans-Kranenburg, Juffer, Stolk, Koot, & Alink, 2006). It is important to note

that across the attachment intervention components reviewed by Bakermans-Kranenburg, van Ijzendoorn, and Juffer (2003) above, the differences in effect size between the different ingredients (parental sensitivity, attachment representations, or concrete support) in combination were relatively small, and in general different combinations produced significant results. The combinations that did not reach significance generally had very few studies (between 1 and 3), which limits our ability to compare them to the other intervention combinations. The more recent, well-controlled study by Cicchetti, Rogosch, and Toth (2006) also lends further evidence to the possibility that addressing the parent's attachment representations may be equally effective in facilitating attachment security in families with multiple risk factors.

Finally, additional research is necessary to understand the impact of contextual factors on outcomes in these interventions, as contextual factors seem to play a role in outcomes for dyadic parent-child interventions, as well as having an impact on the role of attachment security in mediating later outcomes for the child. This is especially important with multi-risk groups. Children raised in environments with multiple risk factors are at the greatest risk for attachment insecurity; paradoxically, they demonstrate the greatest need for a secure attachment relationship, which can mitigate the negative influence of many risk factors on later functioning.

The Potential Role of Common Factors in Attachment Interventions

The development of effective interventions to address attachment disturbance, like the development of other empirically supported treatments (ESTs), have attempted to achieve treatment efficacy through examining the specific components of the intervention that contribute to efficacy. However, there is still considerable debate in the psychotherapy treatment literature regarding the role of the specific components of an intervention, and many question whether they

impact treatment efficacy at all. The small to moderate differences in maternal sensitivity and attachment outcomes demonstrated by the previous interventions indicate that there may be other factors beyond the specific ingredients of the intervention impacting changes in parental behavior and attachment security.

A number of early meta-analytic reviews have failed to find differences between treatment interventions based on theoretical approach (Luborsky, Singer, & Luborsky, 1975; Shapiro & Shapiro, 1982; M. L. Smith & Glass, 1977, 1980). More recently, Wampold, Mondin, Moody, Stich, and Ahn (1997) attempted to gauge the impact of specific treatment techniques through a more rigorous analysis of recent studies, involving direct comparisons between empirically supported treatments (ESTs). Unlike the previous studies, which attempted to make comparisons between treatment categories (for example, cognitive behavioral versus psychodynamic interventions), Wampold et. al. statistically compared the differences between controlled trials as well, to evaluate whether there were clear differences between any treatment approaches. Additionally, to test the hypothesis that increasingly rigorous research techniques (and possibly, improving interventions) would lead to increasingly large effect sizes over time, they examined differences in effect size based on when the studies were conducted. Wampold et. al. found no significant difference in their comparison of effect size differences between individual treatments, categorical classes, or year of study. In 2001, Ahn and Wampold questioned the importance of specific ingredients more directly, through a meta-analysis of studies comparing the effectiveness of interventions with and without their “critical components,” as dictated by the theoretical basis of the approach. Again, there was no significant difference in effect sizes (Ahn & Wampold, 2001). A subsequent analysis by Luborsky,

Rosenthal, Diguier, Andrusyna, Berman, Levitt, Seligman, and Krause (2002), with little overlap between studies, confirmed Wampold et. al.'s findings.

These results left serious questions regarding the importance of specific ingredients over common factors in psychotherapeutic interventions. Wampold et. al. (1997) note several possible caveats to their findings, among them the tendency of meta-analytic techniques to homogenize interactive factors between treatment and presenting concern. It would be premature to infer from the results that all treatments paired with all diagnosis will be equally effective.

Additionally, the studies utilized in the analysis were not exhaustive; they did not include all diagnosis or interventions. Despite these limitations, the consistency of these results provides strong evidence that the specific components of a psychotherapeutic intervention may play only a marginal role in treatment efficacy.

While the specific components of a psychotherapeutic intervention have debatable importance, a growing body of research has demonstrated that there are common factors across interventions that are necessary conditions for change to occur, and that may be curative factors in and of themselves. A number of theorists have speculated that psychotherapeutic change may not be due to the specifics of an intervention, but to the common factors inherent in all interventions (Frank, 1973).

The context of a caring relationship has demonstrated an effect on client outcomes. As originally described by Rogers (1951; 1957), an effective psychotherapeutic relationship is characterized by empathy, congruence (being genuine and honest in interaction with clients), and unconditional positive regard (valuing and accepting the client) on the part of the therapist. Subsequent research on these factors has found that empathy has demonstrated a clear impact on client outcomes across studies, generally displaying a moderate correlation (L. S. Greenberg,

Watson, Elliot, & Bohart, 2001). Positive regard also demonstrates clear effects (Orlinsky, Grawe, & Parks, 1994) although inconsistency in measurement does not allow us to quantify the overall impact. It remains questionable whether congruence is an important factor, but as these three factors tend to occur together, congruence may be seen as an aspect of the transmission of empathy or positive regard (Klein, Kolden, Michels, & Chisolm-Stockard, 2002)

In addition to these factors, a client's expectation that the goals and tasks utilized in an intervention will be effective also consistently predicts psychotherapy outcomes (Arnkoff, Glass, & Shapiro, 2002; Dew & Bickman, 2005); goal consensus between the therapist and client seems to have a significant, although less clear impact (Tryon & Winograd, 2002)

To summarize the effect of these and other relationship factors on psychotherapy outcomes, as well as to highlight their importance, in 2000, Division 29 of the American Psychological Association developed a task force to examine the literature on empirically supported relationship factors. In the category labeled "Demonstrably Effective", indicating the highest level of empirical support, the task force found three factors for individual therapy: goal consensus and collaboration, empathy, and therapeutic alliance. Under the heading "Promising and Probably Effective," they included positive regard, congruence, feedback, self-disclosure, the management of countertransference, the quality of the therapists' relational interpretations, and repair of alliance ruptures. Beyond all other common factors, a positive therapeutic alliance is consistently predictive of psychotherapy outcomes (Horvath & Bedi, 2002); as it is most commonly defined, therapeutic alliance includes many of these factors into a common definition, summarizing the affective bond between client and therapist, agreement on the goals of therapy, and a belief that the tasks of therapy will be effective.

Therapeutic Alliance

The concept of the *therapeutic alliance* was developed to describe the collaborative nature of the relationship between the client and therapist. While the definition of the alliance has evolved over time (see Greenson, 1965; Luborsky, 1976; Zetzel, 1956), Bordin's (1979; 1994) definition is the most comprehensive, capturing both the affective and collaborative components of the relationship. Building off of Greenson's work, Bordin coined the term *working alliance* to capture what he considered the three main components of the therapeutic relationship: an affective bond between the therapist and client, agreement on the therapeutic goals, and consensus with respect to the tasks that make up therapy.

Three separate meta-analyses have examined the relationship between therapeutic alliance and adult psychotherapy outcomes. All studies came to similar results, finding a moderate relationship between alliance and outcome: $d = .26$ (Horvath & Symonds, 1991) , $d = .22$ (Martin, Garske, & Davis, 2000), and $d = .21$ (Horvath & Bedi, 2002), respectively. This may be an underestimation of the true effect size, as all studies utilized conservative estimates, assigning an effect size of 0 to non-significant results. Additionally, all reviews included alliance ratings by therapists, which appear less predictive than ratings of the alliance by the client or observer. In Horvath and Symonds's (1991) initial study, an effect size of .31 was found when outcomes and alliance were both rated by the client. However, a clear predictive advantage was not found for client ratings of alliance in the follow-up study (Horvath & Bedi, 2002) .

While therapeutic alliance consistently demonstrates an impact on client outcomes, it is still unclear if the impact is moderated or mediated by the components of the intervention, or if alliance, as a true "common factor", impacts client outcomes over and above the impact of the intervention. In some studies, alliance appears to mediate between the components of the

intervention and outcomes, facilitating the acquisition of specific skills that are related to outcome (Cloitre, Chase Stovall-McClough, Miranda, & Chemtob, 2004), increasing attendance, and consequently the dose or treatment the client receives (Barber et al., 2001; Meier et al., 2006; Raytek et al., 1999), or increasing motivation to participate in treatment by mediating against the client's initial expectancies (Abouguendia, Joyce, Piper, & Ogrodniczuk, 2004; Gaudiano & Miller, 2006; Joyce, Ogrodniczuk, Piper, & McCallum, 2003; Meyer, Pilkonis, Krupnick, Egan, Simmens, & Sotsky, 2002).

In other studies, alliance appears to have a curative effect that is independent of the effects of the techniques or ingredients of the intervention. In the large meta-analysis by Martin, Gaske, and Davis (2000), the authors found no evidence of treatment variables moderating or mediating the relationship between alliance and outcome. Recent studies of adult psychotherapy by Santiago, Klein, Vivian, Arnow, Blalock, Kocsis et al. (2005), Pos, Greenberg, Goldman and Korman (2003), and Bernal, Bonilla, Padilla-Cotto & Perez-Prado (1998) found that therapeutic alliance predicted outcome independently after controlling for the impact of components of the intervention or treatment exposure. In a study by Barber, Gallop, Crits-Christoph, Frank, Thase, Weiss et al. (2006) with a large sample size, alliance predicted outcome better than the therapist's adherence to the intervention; therapist adherence to the intervention was only predictive of outcome in the case of a weak alliance between the therapist and client.

Recent research has moved beyond examining the relationship between alliance and treatment ingredients, and begun to examine differences in the effectiveness of individual therapists. These studies have demonstrated that individual therapists differ markedly in their effectiveness. Surprisingly, factors that would presumably be related to improved outcomes based on increased therapeutic skill, such as age, years of experience, and training, had no

impact on the formation of therapeutic alliance or treatment outcome (Baldwin, Wampold, & Imel, 2007; D. M. Kim, Wampold, & Bolt, 2006; Wampold & Brown, 2005).

Therapeutic Alliance in Children's Interventions

To date, only a relatively small number of studies have directly examined the role of therapeutic alliance in children's psychotherapy research, and an even smaller number have examined the role of therapeutic alliance between the therapist and parent. Horvath & Bedi's (2002) review identified over two thousand studies in the adult literature, while the only meta-analysis examining alliance in children's psychotherapy was only able to identify twenty-three studies (Shirk & Karver, 2003). At this point, any relationship between therapeutic alliance and the effectiveness of early childhood interventions is speculative.

Recent findings examining common factors in children's psychotherapy may allow us to infer the potential impact of therapeutic alliance on outcomes in early childhood interventions. There have been two recent meta-analyses examining the role of therapeutic alliance, as well as additional common factors, in interventions with children and adolescents. In an initial review by Shirk and Karver (2003), the relationship between therapeutic alliance and a wide variety of children's emotional and behavioral outcomes in psychotherapy was reviewed across 23 studies, including possible mediating factors. The relationship between alliance and outcome was similar to adult psychotherapy, $d = .24$, and no differences were found by type of treatment (behavioral vs. nonbehavioral), adolescent or child clients, or manualized versus non manualized treatments. Alliance was significantly more predictive of changes in global functioning than changes in symptoms or other outcome measures, and it was more predictive of change in children with externalizing behavior problems than child with internalizing behavior problems.

In a subsequent meta-analysis, Karver, Handelsman, Fields and Bickman (2006) expanded their review to include other potential common process factors. Moderate effects were found for counselor interpersonal skills, therapist direct influence skills, therapeutic alliance with the child, positive affect towards the therapist, youth client participation, therapeutic relationship with the parent, parent willingness to participate, and family therapeutic alliance. While these should be considered preliminary findings, both of these meta-analyses suggest that common factors appear to play a similar role in child and adult psychotherapy.

Other studies seem to indicate that as the child gets older, the parent-therapist alliance may play a decreasing role in outcomes. In studies with a mean child age of 10 or under, both parent and child rated alliance with the therapist continues to demonstrate moderate effects on treatment outcome (Kazdin et al., 2005; Kazdin et al., 2006). In a study by McLeod & Weisz (2005) that examined a sample of children with an average age of 10.3, alliance with the parent, but not the child, was predictive of outcomes on a wide range of measures. However, in subsequent samples with adolescent clients, only child-rated alliance is predictive of outcome (Hawley & Weisz, 2005; Robbins et al., 2006). Alliance with the parent may be predictive of change in childhood, but actually counter-productive in adolescent treatment (Kendall & Choudhury, 2003). As the child becomes more individuated over the course of their development, their relationship with the therapist may have an increasing impact on outcome, independent of the parent-therapist relationship. However, the alliance with the parent remains predictive of treatment attendance through childhood and adolescence (Hawley & Weisz, 2005; Kazdin et al., 2005; Robbins et al., 2006). Alliance with the parent may continue to play a role in treatment outcomes throughout adolescence by facilitating dosage effects.

In four recent studies, the work of Kazdin and colleagues directly examined the role of the alliance between the parent and therapist on child outcomes. In the initial study, Kazdin and Wassell (1999) examined the role that therapeutic alliance played in outcomes for 200 children who had completed treatment for oppositional or defiant behavioral problems. The children received cognitive Problem Solving Skills Training (PSST) for approximately 20 to 25 sessions, an intervention focused on the development and practice of interpersonal problem-solving skills. In a parallel treatment, the parents of the children separately received Parent Management Training for approximately 16 sessions. Parent Management Training (PMT) is an intervention that teaches adaptive parenting practices, positive parent-child interaction, as well as providing specific behavior-change programs for use in the home. Alliance was measured using an instrument that examined the perceived relevance of the treatment itself, as well as the relationship between the parent and therapist. This definition is similar to Bordin's (1979), which conceptualized the alliance in terms of three domains: consensus surrounding the goals of therapy, the activities of therapy, and an affective bond with the therapist. These three domains are referred to as the goal, task, and bond domains, respectively.

In Kazdin and Wassell's study, there was a some evidence of a relationship between the perceived relevance of the treatment and treatment outcome ($rs(198) = .32, ps < .001$), as well as the relationship with the therapist and treatment outcome ($rs(198) = .17, ps < .01$), when the alliance was rated by the therapist. Similar to other studies of working alliance, when the client rated the alliance an even stronger relationship between alliance and outcome was found. As rated by the parent, the perceived relevance of the treatment ($rs(198) = .43, ps < .001$), and the relationship with the therapist ($r(198) = .28, ps < .001$), demonstrated an even stronger relationship with treatment outcome.

In a subsequent study, Kazdin, Marciano, and Whitley (2005) directly examined the role of therapeutic alliance in treatment outcomes for 185 children, ages 3 through 14, referred for oppositional, aggressive, and anti-social behavior. Parents of all children received Parent Management Training (PMT), children ages seven and above also received Problem Solving Skills Training (PSST). The children over age 7 who received treatment and parents involved in the study rated their alliance with the therapist and treatment progress. After controlling for the effects of socio-economic disadvantage, parent psychopathology, parent stress, and child dysfunction, alliance as rated by the child had a large relationship to outcomes as rated by the child ($\Delta R^2 = .41, p \leq .001$), and a small effect on outcomes as rated by the parent ($\Delta R^2 = .07, p < .05$). Alliance as rated by the parent had a small effect on outcomes as rated by the child ($\Delta R^2 = .09, p \leq .05$), and parent ($\Delta R^2 = .07, p \leq .05$), after controlling for the same factors. Additionally, stronger alliances predicted stronger acceptability of the techniques of treatment for both children and parents.

Kazdin, Whitley, & Marciano (2006) followed the previous study with an attempt to delineate the relationship between therapeutic alliance, changes in parenting practices, and child outcomes. In a sample of 77 children (ages 6-14) and their parents, all of whom completed both PSST and PMT, the authors examined the role of parent, therapist, and child rated therapeutic alliance on parent, therapist, and child ratings of parental behavior change as well as child outcomes.

Again, the child and parent-rated alliance was generally more predictive of outcomes than the therapist-rated alliance. The parent's rating of alliance moderately predicted parental improvement as rated by both the parent ($r = .41, p \leq .001$) and therapist ($r = .37, p \leq .001$). Additionally, the parent-rated alliance predicted therapeutic change in the child as rated by the

therapist ($r = .25, p \leq .05$), child ($r = .26, p \leq .05$), and parent ($r = .31, p \leq .01$). The child-rated alliance with the therapist was predictive of therapeutic change in the child as rated by the child ($r = .65, p \leq .001$), parent ($r = .24, p \leq .05$), and therapist ($r = .36, p \leq .01$). For all raters, therapeutic alliance continued to predict outcomes even after a hierarchical regression test controlled for the influence of socioeconomic disadvantage, parent psychopathology, parental stress, and child dysfunction.

These studies seem to indicate that the alliance between the parent and therapist plays a role in the effectiveness of treatments designed to change parenting behavior. This finding was confirmed in a subsequent study by Kazdin and Whitely (2006) . Changes in parental behavior are assumed to subsequently alter parent-child interactions, which then impact overall child functioning. The studies by Kazdin and colleagues found small to moderate effect sizes comparable to those found in the review by Shirk and Karver (2003), as well as reviews examining outcomes in adult psychotherapy.

There are several potential caveats to the generalizability of these studies to early childhood or attachment intervention. First and most obvious, none of the studies included children under the age of three. Additionally, the interventions studied were manualized, therapist-directed, and highly structured treatments. This allowed less time for interpersonal process and client-directed involvement, which may have impacted both the development and subsequent role of therapeutic alliance on treatment outcomes. The treatments studies only examined a cognitive-behavioral intervention. As discussed above, there is mixed evidence to support the effectiveness of solely cognitive-behavioral interventions to address early childhood relationship problems, especially in families with multiple risk factors.

For younger children, the parent-child relationship remains the primary influence in mental health outcomes for the child, and treatments tend to focus on the dyadic interaction between the parent and child. Nearly all evidence-based treatments for young children rely heavily on parental participation (Kazdin, Siegel, & Bass, 1990) and parental involvement is integral to treatment to address disruptive behavioral problems, such as attention deficit/hyperactivity disorder, oppositional defiant disorder, or conduct disorder (Thompson, Flood, & Goodvin, 2006). The therapeutic alliance between the therapist and parent may have a greater impact on outcomes for young children than in interventions with older children, as the parent may play a greater role in the child's recovery. In the earlier meta-analysis by Shirk and Karver (Shirk & Karver, 2003), parent-targeted treatments did demonstrate larger effect sizes based on alliance ($d = .33$), compared to interventions targeted to individuals ($d = .21$), and families ($d = .24$), although this difference was not significant. While it was not examined in their study, an even larger effect is found when adolescents are factored out of the parent-targeted treatment condition. Examining only the four studies that included parent-targeted treatments brings the effect size to .41.

Therapeutic Alliance in Early Childhood Interventions

While the role of therapeutic alliance in early childhood and attachment interventions has rarely been examined experimentally, some evidence from the adult psychotherapy suggests that therapeutic alliance may have a special impact on interpersonal relationships. The therapeutic alliance appears to have an impact on a client's perceived social support (Mallinckrodt, 1996) and interpersonal functioning, more than on other domains (L. S. Greenberg & Watson, 1998), and that a strong working alliance can mediate against problems in interpersonal functioning

(Howard, Turner, Olkin, & Mohr, 2006; Watson & Geller, 2005). If the therapeutic alliance in adult psychotherapy can have a positive impact on their relationships, then the alliance between the interventionist and parent may have a similar impact on the parent-child relationship.

For example, in adult attachment research, there is some evidence that simply reminding someone of a positive relationship, or characteristics of positive relationships, can influence that individual to behave as if they had a positive attachment history, regardless of their actual experiences (Gillath, Shaver, Mikulincer, Nitzberg, Erez, & van Ijzendoorn, 2005; Mikulincer et al., 2005; Taubman - Ben-Ari & Mikulincer, 2007). Subliminally or overtly priming someone with images or memories of secure relationships has been found to increase individual beliefs in altruism and benevolence (Mikulincer et al., 2003), magnify feelings of compassion and sympathy for the suffering of others, without increasing the personal distress that inhibits caretaking behavior (Mikulincer et al., 2001), and increases the likelihood that they would help or sacrifice for others (Mikulincer et al., 2005).

In a similar fashion, therapeutic alliance may have a direct curative role. Attachment interventions are, at their core, relationship interventions, which seek to fundamentally change the experience of both the parent and the child in relation to each other, and through this process, their relationship to relationships themselves. The therapeutic relationship mirrors the attachment relationship between a parent and infant. The therapist, through verbal and nonverbal communication, affectively reflects the client's experience, assists the client with tolerating and soothing their distress, and increases their ability to recognize complex internal states and cope adaptively (Greenspan & Wieder, 1984; J. R. Schore & Schore, 2008). In both secure attachment relationships and the therapeutic relationship, the individual learns that distress is manageable and temporary, and that adversity can be overcome. As described by Mikulincer and Shaver

(2007, p. 142), interactions in secure attachment foster a “broaden and build” cycle, in which repeated experiences of successful coping through attachment increase a person’s

“ . . . resilience and expands his or her perspectives, coping flexibility, and skills and capabilities. The ‘broaden and build’ cycle of attachment security is a cascade of mental and behavioral events that enhances emotional stability, personal and social adjustment, satisfying close relationships, and autonomous personal growth.”

If a strong therapeutic alliance fosters positive outcomes in interventions with young children, it may be particularly difficult to achieve. As attachment representations may be transmitted intergenerationally, children with insecure attachments are likely to have parents with insecure attachments (Ricks, 1985). As found by Spieker, Solchany, DeKlyn and Barnard (1999) in a study of mothers that were difficult to engage in treatment, the majority had childhoods characterized by abandonment, rejection, trauma and loss, leading the authors to conclude that these parents were better served by therapeutic interventions that allowed them to address their individual histories of trauma. These repeated childhood experiences of parental neglect and indifference can create deep patterns of mistrust, as well as unmet emotional needs for validation and support (Robinson et al., 1997). These histories appear to make it difficult for parents to form a trusting relationship with the interventionist, which negatively predicts treatment participation (Heinicke et al., 2000; Korfmacher et al., 2007).

Similar findings have been demonstrated in interventions with older children, risk factors such as parental mental illness and low socio-economic status have been found to negatively impact treatment participation as well as therapeutic outcomes (Kazdin et al., 1997; Kazdin &

Wassell, 1999; Kazdin & Whitley, 2003, 2006). In adult psychotherapy literature, insecure adult attachment representations have repeatedly been found to hamper the development of a strong working alliance, and this influence is stronger on the bond domain than the task and goal domains (Eames & Roth, 2000; Mallinckrodt, Coble, & Gantt, 1995; Satterfield & Lyddon, 1995, 1998).

Despite these findings, the formation of the alliance has also consistently been related to the skill of the individual therapist (Baldwin et al., 2007). There is also evidence that indicates that a client's history seems to have less of an impact on the formation of the alliance and subsequent outcomes than the particular alliance relationship that therapist is able to develop with a particular client (A. E. Smith et al., 2010). If a strong therapeutic alliance is difficult to form with multi-risk clients, therapists that are able to form a strong alliance may be able to mediate the impact of these risk factors, in the same way that secure attachment in childhood has been shown to mitigate the impact of negative life-events.

Preliminary qualitative research examining parent's experiences in early childhood programs provides some evidence to indicate that the parent-interventionist relationship may impact treatment outcomes. In these studies, parents consistently report that their experience of the interventionist as a trustworthy, emotionally supportive person was instrumental in their success (Heaman et al., 2006; Pharis & Levin, 1991).

A qualitative study by Pharis and Lewin (1991), examining parent's experiences of participation in the Clinical Infant Development Program (CIDP) is particularly illustrative. The parents in the study ranked therapeutic services offered by the program far more highly than concrete services offered by the program, and reported that individual therapy was one of their favorite aspects of treatment; 73% reported that they would have liked to have met individually

more frequently. Out of all of the 32 possible program services received, mothers ranked “Gave you a person to talk to that really cared about you” as the single most important. As eloquently described by one participant in the program:

“It meant a great deal. Part of me feels like I wouldn't have made it without D.W. [her primary clinician]. I think of her as the program. She helped me get over fears I never thought I could face. I could cry with her, tell her all kinds of things and she wouldn't hate me. She's been there through all the hard times. She's been like the best friend I ever had, not like a worker. I love her like a sister. I miss her now.”

Despite the difficult histories and multiple risk factors experienced by program participants, it appears the relationships formed with the interventionist served to ameliorate the impact of early trauma. As stated by another mother:

“They've been so protective. I'm not used to being protected. I'm not used to being cared about. I'm used to being thrown off the side, the black sheep kind of thing. But they've done a lot of caring and gone out of their way to help me and my kids. They don't have to, but they always want to. It's like whenever I'm in trouble I know I can call them, day or night, any time of day or night no matter what my problem is. No matter how small. They care. It really means a lot to me that somebody that isn't part of me cares. The Center gives me a sense of being. The sense I belong. It's like family.”

The mothers reported that the program's services had made the greatest impact on their psychological status and functioning. On two particular survey items, "change in coping with

problems" and "change in terms of being a mother," more than 90% of the mothers credited their participation in the CIDP program for their marked improvement. As summarized by the authors, the mothers endorsed "the relationships they have been offered, over and above the things they have been given," as the primary factors in their success.

Some preliminary quantitative research on the impact of the parent-practitioner relationship has found some support for its impact on outcomes. In a nurse home-visitation program, Korfmacher, Kizman, and Olds (1998) found that the empathy mothers perceived from the nurse predicted empathy towards the child, but only in mothers with higher psychological resources (defined as higher intelligence, better coping ability, and fewer mental health issues). Improved maternal care giving was also predicted by the mother's perception of nurse empathy, and this effect was higher for mothers with increased psychological resources. While perceived empathy was predictive of outcome, the impact of the intervention itself demonstrated mixed findings. Intervention dose, defined as the amount of nurse-parent contact, was not predictive of maternal care giving or maternal empathy. The mother's emotional engagement in the intervention predicted maternal care giving, but not maternal empathy.

Other studies have failed to show a direct relationship between parent-interventionist alliance and treatment outcomes in interventions for young children. Heinicke et. al. (2000) found that the trust and connection parents demonstrated towards the home visitor, as well as their engagement in the tasks of the intervention, predicted session attendance. However, only engagement in the process, described as a willingness to confront and examine needs in the context of the intervention, predicted responsiveness to the infant's needs. A recent study by Wen, Korfmacher and Hans (2010) found that the alliance between doulas and parents, as reported by the parent, predicted less parental stress at four months, but not more responsive

parenting. When the alliance was rated by an observer, however, strong alliance appeared to predict more responsive parenting as observed by the doula. These studies, in addition to other findings (Korfmacher et al., 2007, see also, Chalmers & Luker, 1991), demonstrate that a strong parent-interventionist relationship increases the family's treatment participation, and subsequent engagement. However, thus far, the parent-interventionist alliance demonstrates an inconsistent relationship with treatment outcomes.

Part of this inconsistency may be due to methodological problems in the measurement of the parent-interventionist relationship, which is a difficult construct to capture with simple self-report measures (Emde et al., 1999). The therapeutic relationship is complex, and may influence therapeutic change through a number of different avenues (Chalmers, 1992; Greenspan & Wieder, 1984). Additionally, parents have a demonstrated tendency to rate their interventionist positively, leading to high average scores and ceiling effects. However, when these relationships are explored through qualitative methods, the richness and complexity of these relationships becomes more apparent, and parents typically describe a greater degree of variability than they report on quantitative measures (Korfmacher & Marchi, 2002).

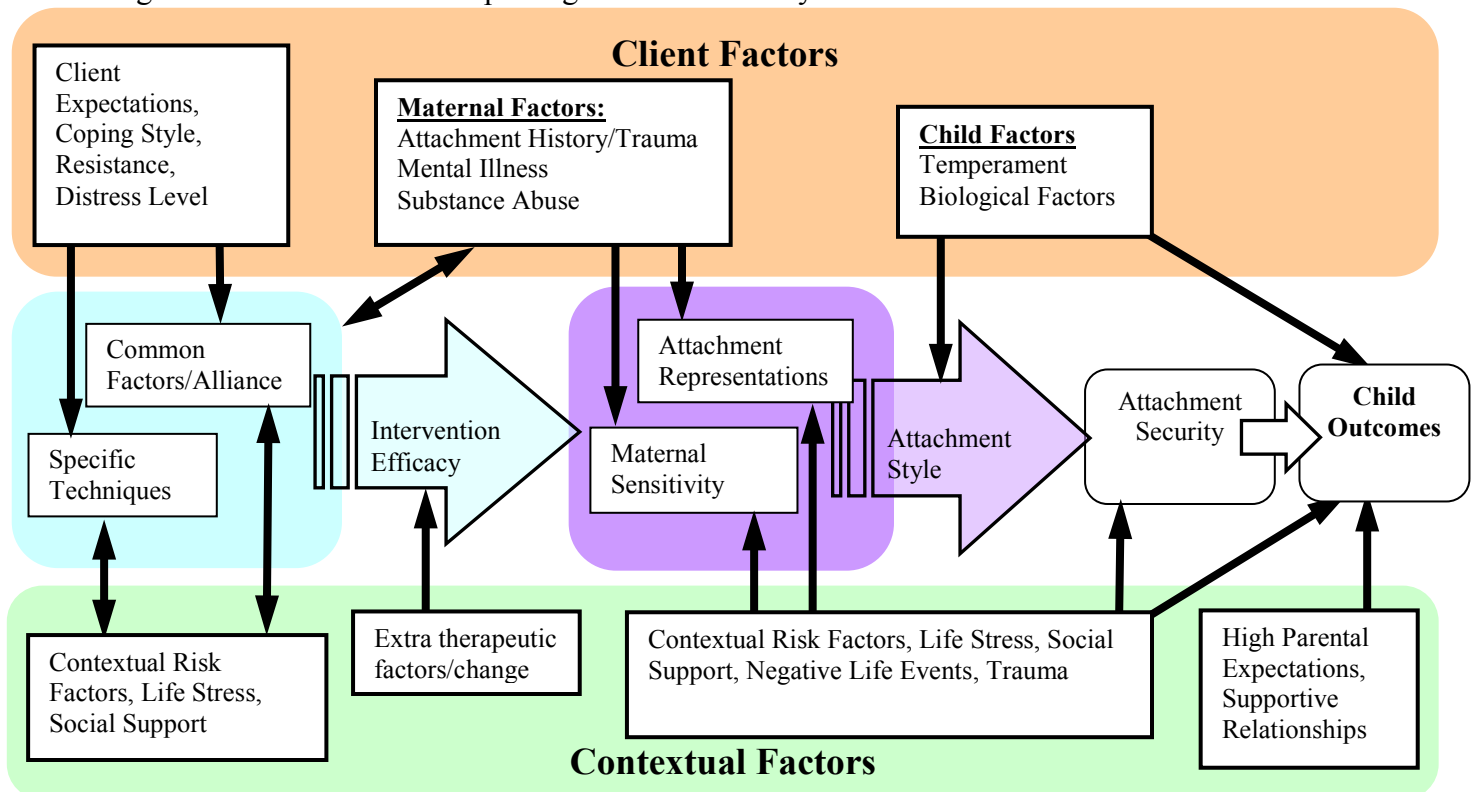
Summary

A number of factors influence the formation of a secure attachment. Parental factors include accurate empathy, coherent attachment representations, and effective affect regulation, all of which play a role in the parent's enactment of specific behaviors leading to secure attachment. Additionally, attachment security can be hampered by factors within the family context that interfere with the parent's ability to positively respond to their child. These factors include parental life stress, substance abuse, domestic violence, or mental illness, among other

factors. Consequently, the impact of an early childhood intervention is influenced the diverse array of factors implicated in attachment security, psychotherapeutic treatment efficacy, or both.

Some of these factors are detailed in Figure 2.

Figure 2. Potential factors impacting outcomes in early childhood interventions.



Some of the factors impacting secure attachment may be effectively addressed through interventions targeting parental behaviors; others may be difficult to adequately address through an exclusively behavioral model. In addition to the components of the treatment intervention, the parent-therapist relationship may serve as a curative factor, and the relationship may play a curative role independent of the impact of the actual treatment components. The therapist's modeling of accurate empathy, the reduction of parental distress through the support of the therapeutic relationship, or the corrective experience of a supportive relationship may all impact the parent's attachment representations, their ability to regulate their own emotions, and their

ability to be emotionally available to their child. Consequently these changes could impact parental behavior and child outcomes.

III. RESEARCH DESIGN AND METHODOLOGY

This study utilized a non-experimental post-hoc research design in an attempt to answer the following question: what impact does the parent-therapist relationship have on changes in a child's attachment-related protective factors in early childhood interventions? Subjects for the study were drawn from an archive of assessment data from parent-child dyads who received services at Child Abuse Listening and Mediation (CALM), a child abuse agency located in Santa Barbara, California.

Setting and treatment program

CALM is a private nonprofit agency whose mission is to prevent, assess, and treat child abuse and domestic violence. As part of these services, CALM operates the *Great Beginnings Program*, a prevention and intervention program for families with children from birth through five years of age with multiple risk factors for child abuse. The overarching goals of the *Great Beginnings Program* are to promote the well-being, health, and development of families and their children prenatal through five years of age. Services in the program are delivered utilizing three different treatment models: Healthy Families America Home Visitation, Child-Parent Psychotherapy, and Parent-Child Interaction Therapy. Families are assigned to different modalities depending the age of their child, level of acuity, identified needs, and personal preferences. In addition to these treatment modalities, some parents receive individual psychotherapy, participated in post-partum support groups, or received psychiatric support.

Great Beginnings services were delivered by a multidisciplinary team comprised of home visitors, a family nurse practitioner, a child development specialist, psychotherapists, a psychiatrist specializing in early childhood mental health and post-partum depression, and the

program manager, a licensed clinical social worker. The team represents a wide breadth of clinical and educational expertise across multiple disciplines and participated in on-going professional development and collaborative supervision. Primary service delivery is provided by either a paraprofessional home visitor or a psychotherapist, depending of the severity of needs within the family. Services include assessment for developmental delays, developmental guidance, education on positive parenting practices, and referral, linkage and advocacy to supportive services to address concrete needs such as food, housing, or healthcare. Psychotropic medication is also provided to some parents with more severe symptomology.

Treatment Models

Healthy Families America Home Visitation was developed in 1992, building on previous findings in the home visitation literature. Healthy Families America has accumulated an impressive amount of research evidence supporting its efficacy. Harding, Galano, Martin, Huntington, and Schellenbach (2007) recently completed a comprehensive review of 33 studies, examining the outcome evaluations of 288 diverse Healthy Families sites in 22 states. Fourteen of the studies were randomized-controlled trials. The authors reviewed outcomes from four major domains: (a) child health and development (birth outcomes, breastfeeding, medical home, immunizations and well-baby visits, injuries, developmental screenings); (b) maternal life course (subsequent births, economic self-sufficiency, depression, substance use, and domestic violence); (c) parenting (attitudes, stress, behaviors, and parent-child interaction); and, (d) child maltreatment. Despite the diversity of populations and practices across these sites, the authors found convincing evidence of positive outcomes in all of these domains. Several studies showed

improvements in cognitive development, even though targeting cognitive development is not a direct intervention in the program (Harding et al., 2007).

In addition to positive outcomes in child health and development, the intervention also led to significant improvements in positive parenting attitudes and enriched home environments, characterized by the presence of toys, books, and frequent, positive parent-child interactions. Other evaluations have found that Healthy Families contributed to better safety practices in the home, including the use of covered electrical outlets, smoke alarms, car seats, the secure storage of scissors, knives, lighters, matches, and poisons, water safety practices, the availability of emergency phone numbers and increased outdoor supervision (Krysiak & LeCroy, 2007). In several studies, the intervention was also found to have a positive impact on parents as well as children. Some studies have shown increases in maternal employment and education rates, and several others demonstrated significant decreases in depression and domestic violence, as well as a reduction in substance abuse (Harding et al., 2007).

Healthy Families has been demonstrated to reduce the rate of abuse from 50-75% compared to controls (DuMont, Mitchell-Herzfeld, Greene, Lee, Lowenfels, Rodriguez, & Dorabawila, 2008; Krysiak & LeCroy, 2007), as well as the severity of abuse that children experience compared to families who don't receive the intervention (Krysiak & LeCroy, 2007). These findings have also been replicated with CALM's Great Beginnings program, leading to a published research study (Bugental, Ellerson, Lin, Rainey, Kokotovic, & O'Hara., 2002).

Child-Parent Psychotherapy (Lieberman & Van Horn, 2008) is a dyadic parent-child relationship intervention that works to promote secure attachment between infants and their caregivers, fostering the development of affect regulation and recovery from trauma exposure. Components of the program include crisis intervention, concrete assistance, emotional support,

developmental guidance, early relationship assessment and support, child-parent psychotherapy, and advocacy. The intervention also works to overcome difficulties in the family context that are negatively affecting the child, such as problems in housing, health, or poverty, domestic violence, parental mental illness or substance abuse.

Three separated randomized controlled trials of CPP with trauma-exposed children, utilizing ethnic-minority samples, have demonstrated that the treatment effectively assisted children and their parents in recovering from trauma exposure. A study by Lieberman, Van Horn, and Ghosh-Ippen (2005) found that the treatment reduced child behavioral problems and traumatic symptomology in children as well as their mothers, results that were maintained at a six-month follow up (Lieberman, Ippen, & Van Horn, 2006). An initial study by Toth, Maughan, Manly, Spagnola, and Cicchetti (2002) utilizing a sample of trauma-exposed children found that the practice effectively altered children's internal working models for themselves and their parents, which has implications for the development of a secure attachment. A subsequent study with a sample of maltreated toddlers found that the intervention had a dramatic effect on altering the attachment security of children and their parents, changing a large portion of the sample from an insecure to secure classification (Cicchetti et al., 2006). An additional trial examining the use of CPP as a preventative intervention with a sample of mothers with post-partum depression found the treatment resulted in a higher attachment security than a control group of untreated mothers without depression (Toth, Rogosch, Manly, & Cicchetti, 2006). Guidelines have also been developed to support children's recovery from traumatic grief (Lieberman, Compton, Van Horn, & Ippen, 2003)

Parent-Child Interaction Therapy (PCIT) was developed and studied by Eyberg and colleagues as a treatment for children with disruptive behaviors, including oppositional defiant

disorder, conduct disorder and attention deficit disorder (Eyberg, 1988; Hembree-Kigin & McNeil, 1995). It is designed to improve the quality of the parent-child relationship by decreasing negative interactions and increasing positive, supportive communication with young children. The program addresses children with behavioral problems between the ages of 2-7 providing a supportive environment for parents, building a relationship with the child, and developing strategies for discipline that facilitate the child's optimal, social, and emotional development. Parents are coached in therapy to improve their skills in relationship-building and effective disciplining with their children with behavioral challenges.

PCIT has an impressive body of literature demonstrating its effectiveness in improving the parent-child relationship, fostering positive parent-child interactions, reducing parental stress, and promoting the use of positive discipline techniques (Schuhmann, Foote, Eyberg, Boggs, & Algina, 1998; Thomas & Zimmer-Gembeck, 2007). Additionally, PCIT has been shown to diminish children's oppositional, defiant, and aggressive behavior (Funderburk, Eyberg, Newcomb, McNeil, Hembree-Kigin, & Capage, 1998; Nixon, Sweeney, Erickson, & Touyz, 2004; Thomas & Zimmer-Gembeck, 2007), as well as reducing hyperactivity and encouraging a more flexible temperament (Nixon, 2001). Follow up studies have also repeatedly demonstrated that families that receive PCIT have maintained treatment gains up to six year following the intervention (Eyberg, Funderburk, Hembree-Kigin, McNeil, Querido, & Hood, 2001; Hood & Eyberg, 2003). Improvements in parent behavior have been shown to generalize to other children in the home, while improvements in child behavior generalized to the school setting (Funderburk et al., 1998).

Studies have also indicated that PCIT is effective with children who have experienced abuse (Chaffin, Silovsky, Funderburk, Valle, Brestan, Balachova, Jackson, Lensgraf, & Bonner,

2004), including foster children (Timmer, Urquiza, & Zebell, 2006), as well as ethnic minority populations (Butler & Eyberg, 2006; Matos, Torres, Santiago, Jurado, & Rodriguez, 2006; McNeil, Capage, & Bennett, 2002). Adaptations have also been developed for working with Mexican American families (McCabe, Yeh, Garland, Lau, & Chavez, 2005). In a randomized-control trial by Chaffin and colleagues (2004), PCIT was shown to greatly reduce further abuse reports in families with multiple previous reports, severe parent-to-child violence, low income, and significant levels of depression, substance abuse, and antisocial behavior.

Subjects and program participation

The sample used in this study was selected from an archival database of assessment measures administered as part of program operations. Subjects were selected for inclusion if they had completed all of the required measures for the study. Clients participating in the program complete a number of assessment measures in the course of treatment. Data from these measures is utilized to guide treatment interventions in individual cases, evaluate the effectiveness of the overall program, and comply with the requirements of a number of different funding sources, which require the reporting of program outcome data.

Participants in the Great Beginnings program were referred to the program from diverse community sources, including other treatment agencies, the county mental health and public health departments, child protection, community obstetricians and pediatricians, as well as family, friends, or other social supports of the parents themselves. A large percentage of the parents seen in the program were from minority populations, low-income, or monolingual Spanish-speakers. Families that were seen in the program display one or more of the following risk factors for child maltreatment: a history of abuse in the parent's childhood, substance abuse

recovery, previous incidence of child abuse or domestic violence, poverty, high parental life-stress, housing difficulties, parental criminal justice involvement, parental mental illness, or significant child behavior problems.

Families in the program were initially referred to the program director or a therapist in the program, who conducted an initial screening interview with the parent seeking services and determined their appropriateness for the program. If the needs and presenting concerns of the family were deemed to be best served by the program, the family began the intake process. An initial semi-structured interview with the family was completed either at the agency or within the family's home depending on the family's preference and availability. During this interview, the family completed an "Informed Treatment Consent," in addition to the "Consent for a Minor to Participate in Assessment and Research (see attached)." The parent was informed that the purpose of the assessments was to: 1) to evaluate the effectiveness of treatment for children and families; and 2) to identify areas of difficulty and identify goals for treatment. In addition to this information, families were also informed that if their assessment data is used for research purposes, their complete confidentiality was assured. At the end of the initial intake interview parents were given a series of assessment instruments to complete if time permitted. These assessments included the Adult-Adolescent Parenting Inventory – 2, the Parental Stress Inventory – Short Form, the Conflict Tactics Scale, and the Center for Epidemiological Studies Depression Scale. Parents of children over eighteen months of age were also administered the Child Behavior Checklist. If time constraints did not allow assessments to be completed in the initial meeting, they were completed by the end of the third meeting with the family. After assessments had been completed, they were scored by agency staff and returned to the service provider, who stored them in the family's file and used the results to inform treatment planning.

After the initial intake interview, new cases were presented to the *Great Beginnings* team meeting, and subsequently assigned to particular treatment services depending on the family's presenting needs, preferences, level of acuity, and the age of their child. Families scoring above mid-level risk on the *Kempe Family Stress Checklist* were typically referred to clinical services as opposed to home visitation. Following this team decision making process, the family was assigned to a service provider who contacted the family and initiated services. Following the fourth meeting with the family, the service provider completed a *Devereux Early Childhood Assessment* (DECA) on the child.

After the family had had met with their service provider for three sessions, approximately one month after initiating *Great Beginnings Program* services, the Working Alliance Inventory (WAI) was given to the parent to complete independently. Parents were informed that their answers would be kept confidential from their service provider. For families being seen at the agency clinic, the WAI was given at the front desk by reception staff and completed in the agency's waiting area. Families being seen in the home were given the WAI in their home, service providers were not present when the WAI was completed. The family was provided a pre-addressed, stamped envelope, and were asked to seal their answers within the envelope and mail it directly to evaluation staff at the agency.

Six months following the initiation of services with the family, the service provider completed the DECA a second time. The measure was scored by agency staff and returned to the service provider, who stored them in the family's file and use the results to inform treatment planning. If the family completed or terminated services before the 6 month period, the service provider completed a DECA at the point of treatment termination.

Subjects who completed DECAs at the start of treatment and follow up, in addition to a WAI in the early phase of treatment were included in the sample. Client records were reviewed and compared to information recorded in the database to insure that data was recorded accurately.

Measurement Overview

Data from one parent-report measure (the WAI) and one provider-report measure (the DECA) were utilized in this study. The Working Alliance Inventory-Short Form-Revised (Hatcher & Gillaspy, 2006; Horvath & Greenberg, 1986, 1989; Tracey & Kokotovic, 1989) was utilized to measure the therapeutic alliance between the interventionist and parent, and was completed by the parent. The Devereux Early Childhood Assessment (Mackrain, LeBuffe, & Powell, 2007; Naglieri, LeBuffe, & Pfeiffer, 1994) was utilized to measure attachment-related protective factors, and was completed by the provider. Program staff completed DECAs on children seen in the program every six months following the date of initiating program services. The DECA results in a t-score for the individual scales; to calculate a DECA change score, the intake t-score was subtracted from the 6-month follow up t-score.

In addition, the following client data, taken as part of the treatment process, was coded: child and parent age, sex, race, primary language, family composition (single parent, two-parent biological, two-parent foster/adoptive family), and education level. The following family risk factors were also coded through a checklist completed by the interventionsists, as well as a secondary check completed by reviewing treatment records: parental history of physical abuse, sexual abuse, or witnessing domestic violence in childhood, parental history of domestic violence in an adult relationship, parental history of substance abuse, parental history of criminal

involvement, parent diagnosed with an Axis I disorder, child ever placed in foster care, and child every reported to child welfare services for alleged abuse.

Therapeutic Alliance

The Working Alliance Inventory (Horvath & Greenberg, 1986, 1989) is one of the most widely utilized measures of the therapeutic relationship in use today. The WAI is a 36-item instrument that measures the relationship between the therapist and the client. Respondents are asked to rate a series of statements regarding the therapeutic relationship, such as, “_____ and I agree about the things I will need to do in therapy to help improve my situation.” Respondents are instructed to mentally substitute the therapist’s name in any blank spaces. Items are rated on a 7-point Likert scale, with answers ranging from 1 (never) to 7 (always). Based on Bordin’s three-domain definition of working alliance, the WAI yields three subscales, a goal consensus, task consensus, and bond subscale, as well as a total alliance scale derived from combining the results of the three subscales. The WAI is available in three forms, which can be rated by the client (WAI-C), an observer (WAI-O), or the therapist (WAI-T). Results from the client-rated version will be utilized in this study. The research reviewed below focuses on the client-rated version of the WAI.

The WAI-C has consistently demonstrated strong internal reliability. In its initial development, the subscales demonstrated internal consistency estimates of .85 - .92, with a total alliance estimate of .93 (Horvath & Greenberg, 1986, 1989). A subsequent reliability generalization study, examining the internal consistency of the WAI across twenty-five different studies, found mean internal consistency coefficients of .87, .87, and .89 for the goal, task, and bond subscales, respectively, and a mean coefficient of .93 for the total scale (Hanson, Curry, & Bandalos, 2002). Martin, Garske, and Davis’s (2000) well known meta-analysis found an overall

reliability coefficient of .84, and test-retest reliability of .73. The WAI correlates well with other measures of the therapeutic alliance (Fenton, Cecero, Nich, Frankforter, & Carroll, 2001; Safran & Wallner, 1991; Tichenor & Hill, 1989), and has repeatedly predicted outcomes in parenting interventions (Kazdin et al., 2005; Kazdin et al., 2006).

The structure of the WAI was later examined with confirmatory factor analysis, and a two-level factor structure was found, supporting the three subscales in addition to a primary total alliance factor (Tracey & Kokotovic, 1989). The four items that were found to load most strongly on each of the three factors were utilized to create a short form for the WAI. The WAI-S has consistently demonstrated strong internal consistency for the subscales. The initial development found subscale coefficients ranging from .90 to .92 and a total score of .98 (Tracey, Glidden, & Kokotovic, 1988), and the subsequent reliability generalization study by Hanson, Curry and Bandelos (2002) found a total reliability coefficient of .95. Busseri & Tyler (2003) also found no differences in predictive validity, when comparing the WAI to the WAI-S, as measured by the ability to predict symptom reduction and improvement on therapeutic goals on the *Symptom Checklist 90, revised* and *Target Complaints Questionnaire*.

A revised version of the WAI-S was recently developed by Hatcher and Gillaspay (2006), to address problems in the factor structure of the WAI-S which did not clearly distinguish a three-factor model. The revised version, the Working Alliance Inventory-Short Form-Revised (WAI-SR) correlated highly with the original WAI ($r = .94$ and $.95$ in two large samples), as well as several other measures of the therapeutic alliance. The WAI-SR also demonstrated strong internal consistency, with subscale alphas ranging from .85 to .90, and a total alpha of .91.

For the current study, the WAI-SR was altered when applied to home visitation cases, references to a “counselor” were changed to “home visitor.” An alternate Spanish version was

developed using back-translation, the measure was translated into Spanish. This Spanish version was translated by a different translator back into English, this copy was compared to the original English version to assess consistency. As there were no differences demonstrated, the translated version was judged to be accurate.

Attachment-related protective factors

The Devereux Early Childhood Assessment (Mackrain et al., 2007; Naglieri et al., 1994) is a measure of within-child protective factors related to attachment. The DECA comes in three different forms based on the age of the child, infant (0-18 months), toddler (18-36 months), and preschool (2-5 years), and can be completed by either a parent or provider. Respondents rate a series of statements about the child's behavior in the previous four weeks on a 5-point Likert scale ranging from "Never" to "Very Frequently." The measure results in two subscales, initiative and attachment, as well as a total protective factors scale. The forms for toddlers and preschoolers add additional scales, based on the child's emerging developmental capacities. A self-control scale is included in the 18-36 month and 2-5 year old forms, and an additional behavioral concerns scale is included in the 2-5 year old form.

The initial validation of the DECA found strong internal consistency for the subscales (.85-.90) and total protective factors scale (.94). Additionally, the DECA demonstrated strong test-retest reliability for the subscales on all three forms: the 0-18 months form (.87-.82), the 18-36 months form (.93-.96), and the 2-5 years form (.87-.91). The test-retest reliability of the total scale for each of these three forms was .76, .94, and .94, respectively.

Two initial studies were conducted with the DECA preschool version to determine its validity. As discussed previously, problems in secure attachment are linked to behavioral

problems in childhood. The first study examined the DECA's criterion-related discriminant validity, comparing a sample of children with known emotional or behavioral problems ($n = 95$) to a sample of matched controls from the community ($n = 86$). The samples were matched based on age, gender, race, and Hispanic ethnicity. The DECA significantly differentiated between the two groups on all three subscales ($d = .47$ to 1.08 , $p < .01$), and as well as the total protective factor ($d = .89$, $p < .01$) and behavioral concerns scale ($d = 1.08$, $p < .01$). Lower scores on the DECA predicted group membership for 67% of the clinic sample, and higher scores predicted group membership for 71% of the community sample (Mackrain et al., 2007; Naglieri et al., 1994).

Additionally, the relationship between the child's experience of negative life events, total protective factors, and behavioral concerns was examined. As a protective factor, it is assumed that secure attachment attenuates the impact of negative life events on later functioning. Parents and family members who provided ratings on 181 participants in the validity study also completed a Preschool Major Life Events Checklist (adapted from Work, Cowen, Parker, & Wyman, 1990) the Sources of Stress Inventory (Chandler, 1981), and the Preschool Daily Hassles Checklist (adapted from Schaefer, Coyne, & Lazarus, 1981). The results of these measures were converted to a "Total Risk Index" t-score. Subjects with a T-score above 60 were assigned to a high risk group, while those with a t-score under 40 were assigned to a low risk group. Similarly, participants were assigned to high and low protective factors groups utilizing their t-scores on the DECA's total protective factors scale.

The results were consistent with resilience theory. Main effects for both total risk and total protective factors were found, and there was no interaction. As expected, children with more risk factors had more behavioral concerns. For children at both levels of risk, higher

protective factors scores were associated with better outcomes than lower protective factors scores. Protective factors were more predictive of outcome than the child's level of risk (Naglieri et al., 1994).

Treatment Dose

Treatment dose was measured by counting the number of family-child treatment sessions attended in a six-month period. The period of treatment started with the family's first therapy session, which followed the completion of the initial assessment and paperwork, as well a waiting period in some cases due to limited availability. The treatment period continued 180 following this date of first contact, all family therapy meeting attended during this time were counted.

IV. RESULTS

Data from the present study was analyzed using the Statistical Package for Social Sciences (SPSS) version 18.0. Following a review of the data archive and the identification of cases that met the study criteria, preliminary analyses were conducted to obtain descriptive information, examine the distribution of the data and the potential influence of demographic variables, and explore intercorrelations between the study variables.

Subsequent analyses utilized several single linear regressions to investigate the predictive relationship of the working alliance (goal, task, bond, and total subscales), entered as individual independent variables, on changes in attachment-related protective factors (change in the DECA initiative, attachment, and total subscales), entered as individual dependent variables.

Supplementary analysis was utilized to explore the possibility that treatment dose, as measured by the number of family sessions attended, served as a mediator between alliance and attachment outcomes.

Sample selection

An initial overview of clients participating in the program resulted in a total database of 97 cases. A review of the database initially resulted in a sample of 27 cases that met the criteria for analysis. It had been expected that a much larger number of cases would meet the criteria for inclusion, as 97 clients had begun services in the program during the time examined. A number of factors appeared to have made it difficult to consistently gain data from families receiving services in the program. The working alliance inventory was only utilized by the agency for an abbreviated time, which necessitated that only new cases that came into the program after its introduction were utilized in the present study (it was eventually replaced with a client

satisfaction questionnaire). Additionally, the majority of premature terminations occurred within the first month, which did not allow for working alliance data to be collected. For home-based services, the measure was administered, but the mailing of the measure was left to the client, who often did not return the measure. Out of 56 measures given to home visitors to be administered, only 7 were returned. The collection of the DECA was also truncated due to a change in funding; the measure was required by a grant that supported the program, but was discontinued following the loss of funding.

Client attrition was also a significant factor in data collection, and appeared to be influenced by transient life circumstances, such as unstable housing or other life stressors. Some families terminated services after the child either entered or left a foster placement (the caregivers at that point lost contact with the child), which did not allow for follow up intervention data. Other cases were transferred between interventionists due to a change in treatment approach as they became aware of new information or changes in acuity; other cases were transferred due to staff turnover. These cases were not included, as the previous ratings of alliance could not be applied to the new interventionist. Ultimately, the population that was examined experienced a significant number of changes in circumstances over the course of their participation, which made it difficult to consistently collect data. The clients that were included reflect a population with somewhat stable life circumstances.

Sample characteristics

The sample characteristics mirrored those of other multi-risk samples examined in early childhood intervention literature. Mothers seen in the program were typically low-income, primarily Spanish-speaking, and more than half had not completed high school. Three-quarters

of mothers in the sample had experienced some form of abuse in child hood, and many had experienced multiple forms of trauma ($M = 1.25$, $SD = .90$). Additional descriptive information regarding the sample is listed in table 2.

Table 2. Sample descriptive information.

Family Characteristics	N	Percentage
Mother's Ethnicity		
Caucasian	4	17%
Latina	19	79%
Multiethnic	1	4%
Mother's Primary Language		
English	6	25%
Spanish	18	75%
Monolingual Spanish-speakers	12	50%
Mother's age at time of child's birth		
< 18	2	8%
18-25	10	42%
25 +	12	50%
Mother's Education Level		
< High School Completion	13	54%
High School Completion/Trade or Technical	9	38%
College Completion	2	8%
Child's Ethnicity		
Caucasian	3	13%
Latino/a	18	75%
Multiethnic	3	12%
Child's Age		
Infants (<1 yr)	5	20%
Toddlers (1-3 yrs)	10	42%
Preschoolers (3-5 yrs)	9	38%
Child's Sex		
Female	9	38%
Male	15	62%
Family Type		
Single Parent	11	46%
Two-parent birth family	11	46%
Two-parent foster/adoptive family	2	8%
Family Risk Factors		
Maternal Trauma History		
Witnesses domestic violence in childhood	10	41%
Physically abused as a child	10	41%

Sexually abused as a child	10	41%
Any of the above forms of trauma exposure in childhood	18	75%
Domestic violence in adult relationship	13	54%
Maternal Risk Factors		
Diagnosed with a serious Axis I disorder	4	17%
History of substance abuse	5	20%
History of criminal involvement	2	8%
Child risk factors		
Child previously referred to child welfare	10	42%
Child previously placed in foster care	6	25%
Service Information		
	N	Percentage
Primary Intervention Model		
Healthy Families Home Visitation	7	29%
Child-Parent Psychotherapy	12	42%
Parent-Child Interaction Therapy	7	29%
Additional Services Received		
Individual Therapy (Parent)	12	50%
Post-Partum Support Group	7	29%

Initial examination of the data indicated that the distribution of the Working Alliance Inventory subscales were badly skewed, a problem that did not respond to transformation. Upon a closer inspection, it was discovered that three cases were significantly impacting the distribution of the sample. These three cases had z scores between -2.5 and -3.5, a far greater frequency than would be expected in a sample of this size. These individual cases were all involved with child protection and were mandated to treatment, which was assumed to influence their response to the working alliance measure, and possibly their treatment attendance. Due to these reasons, these three cases were dropped from the sample, resulting in 24 cases for analysis.

On average, families seen in the program displayed some improvement in the child's observed attachment-related risk factors. Mean initial, follow up, and difference scores are listed below. T-scores for families seen in the program were typically below average at intake ($t < 50$), and rose to average scores at the six-month follow up period.

Table 3. DECA initial and six-month follow up t-scores, as rated by interventionists (n = 24).

	Initial Score		Follow up		Δ	
	M	SD	M	SD	M	SD
Initiative	47.4	6.8	50.9	6.6	3.5	7.3
Attachment	47.6	7.3	51.0	9.0	3.5	7.7
Total Protective Factors	46.1	7.1	50.4	7.0	4.3	7.5

Families seen in the program generally endorsed high levels of alliance with their service provider; their average item response was a 6.5 out of a 7-point scale. This held across the individual subscales as well, with equally high item averages for the goal ($M = 6.50$, $SD = 0.5$), task ($M = 6.38$, $SD = 0.73$), and bond ($M = 6.42$, $SD = 0.5$) subscales.

Descriptive information regarding the Working Alliance Inventory is listed below.

Table 4. Working Alliance Inventory descriptive statistics (n = 24).

Scales	Scores	
	M	SD
Goal	26.14	2.02
Task	25.50	2.95
Bond	25.71	1.99
Total Alliance	77.35	5.62

These results are consistent with other studies, which generally demonstrate ceiling effects utilizing parent-report measures of the therapeutic relationship (Korfmacher et al., 1998; Korfmacher & Marchi, 2002). For example, in the parenting intervention previously discussed by Kazin and Whitley (2006), parents' average item responses on the long form of the working alliance inventory were more than six on a seven-point Likert scale ($M = 6.30$, $SD = 0.55$). The

authors found similar results were found utilizing different alliance measures (Kazdin et al., 2005; Kazdin & Whitley, 2006)

The families that were seen in the program demonstrated a considerable amount of variance over the study period, ranging from a high of twenty-five contacts, to a low of three contacts. The typical family was seen approximately every two weeks.

Table 5. Descriptive statistics for client program participation.

			Total Sessions		Weekly Average	
	Low	High	M	SD	M	SD
Family sessions attended	3	25	13.17	4.75	0.51	0.18

Preliminary Analysis

Preliminary data analysis was conducted to determine if the sample could be collapsed on the basis of child age, ethnicity, sex, as well as parental age, ethnicity, and sex. A series of one-way ANOVAs were conducted examining the relationship between these categorical demographic variables and the dependent variable, change on the DECA scales. These demographic factors did not demonstrate a significant relationship with the dependent variable. The child's age and mother's age were also examined through correlation, this analysis also did not demonstrate a relationship between these variables and the dependent variable.

To examine the relationships between study variables, the Pearson-product correlations between the variables were explored. The results of these analyses are listed in table 6. Concordant with previous research, the Working Alliance Inventory subscales were significantly intercorrelated. The DECA subscales were also significantly intercorrelated. Also consistent with previous research, the working alliance inventory goal, task, and total subscales were

significantly related to treatment participation, as measured by the number of family sessions that participants attended during the study period. These working alliance subscales also demonstrated a significant relationship with increased changes in child initiative on the DECA, but not on the DECA attachment or total protective factors scales. The number of family sessions attended also demonstrated a significant relationship with changes in initiative on the DECA following six months of participation in the program.

Table 6. Correlations between study variables.

	WAI Goal	WAI Task	WAI Bond	WAI Total	Δ Initiative	Δ Attachment	DECA Δ Total
WAI Task	0.51**						
WAI Bond	0.55**	0.39					
WAI Total	0.81***	0.85***	0.75***				
DECA Δ Initiative	0.41*	0.49**	0.35	.53**			
DECA Δ Attachment	-0.10	-0.15	-0.05	-0.13	.52**		
DECA Δ Total Factors	0.22	0.23	0.03	0.21	.86***	.76***	
Family Sessions	0.55**	0.64***	0.34	0.65***	.54**	0.01	0.33

*** $p < .001$, ** $p < .01$, * $p < .05$, † $p < .10$

Power analysis

A priori power analysis was conducted to determine the number of participants for the current study. Based on guidelines suggested outline by Heppner, Kivlighan, and Wampold (1992), this analysis entailed (a) determining the estimated effect size, (b) setting a critical value, and (c) computing a power analysis. Based on prior research, an estimated effect of $F = .15$ was utilized, with a .05 critical value. This resulted in 55 participants recommended for a single

predictor, and 68 subjects recommended for the two predictors utilized in mediation analysis. As discussed above, the current study was unable to garner this many participants for examination, resulting in a lack of statistical power.

Post hoc power analysis was also conducted to determine the power of the current study. A moderate effect size of $F^2 = .15$ was utilized. These values were entered into the power analyses for the present study using the *G*Power* program provided by Erdfelder, Faul, and Buchner (1996) to calculate power for linear regression. For a medium effect size ($F^2 = .15$), the chance of a type II error is considerable, 56% for the primary regression analysis, and 66% for mediation analysis. For a small effect size ($F^2 = .02$), the chance of a type II error is virtually certain, 90% for the primary regression analysis, and 92% for mediation analysis.

Primary analysis

A series of single linear regressions were conducted to examine the relationship between the working alliance and attachment related protective factors. The first series of regressions examined the relationship between the parents' report of working alliance with the interventionist and changes in the child's initiative behavior observed by the interventionist. The results are listed below in table 7.

Table 7. Single linear regressions of WAI scales, predicting change in DECA initiative.

<i>WAI Scale</i>	<i>B</i>	<i>SE B</i>	β	R^2
Goal	1.468	.704	.407*	.166
Task	1.220	.459	.493*	.243
Bond	1.292	.733	.352†	.124
Total Alliance	.687	.235	.529**	.280

*** $p < .001$, ** $p < .01$, * $p < .05$, † $p < .10$

The parent's rating of the goal, task and total alliance with the interventionist all demonstrated fairly large, significant relationships with the amount of improvement children demonstrated on the initiative subscale on the DECA.

The second set of regressions examined the relationship between the parents' report of working alliance with the therapist and changes in the child's attachment behavior observed by the interventionist. The results of these regressions as listed below, in table 8.

Table 8. Single linear regressions of WAI scales, predicting change in DECA attachment.

<i>WAI Scale</i>	<i>B</i>	<i>SE B</i>	<i>β</i>	<i>R²</i>
Goal	-.367	.807	-.097	.009
Task	-.383	.550	-.147	.023
Bond	-.185	.823	-.048	.002
Total Alliance	-.176	.289	-.129	.017

*** $p < .001$, ** $p < .01$, * $p < .05$, † $p < .10$

This analysis found no significant relationship between the working alliance scales and change in observed attachment behaviors in the child.

The final set of regressions examined the relationship between the parents' report of the working alliance and changes in the overall attachment-related protective factors observed by the interventionist. The results of these regressions are listed below, in table 9.

Table 9. Single linear regressions of WAI scales, predicting change in DECA total protective factors.

<i>WAI Scale</i>	<i>B</i>	<i>SE B</i>	<i>β</i>	<i>R²</i>
Goal	.835	.775	.224	.050
Task	.595	.530	.233	.054
Bond	.118	.808	.031	.001
Total Alliance	.286	.279	.213	.045

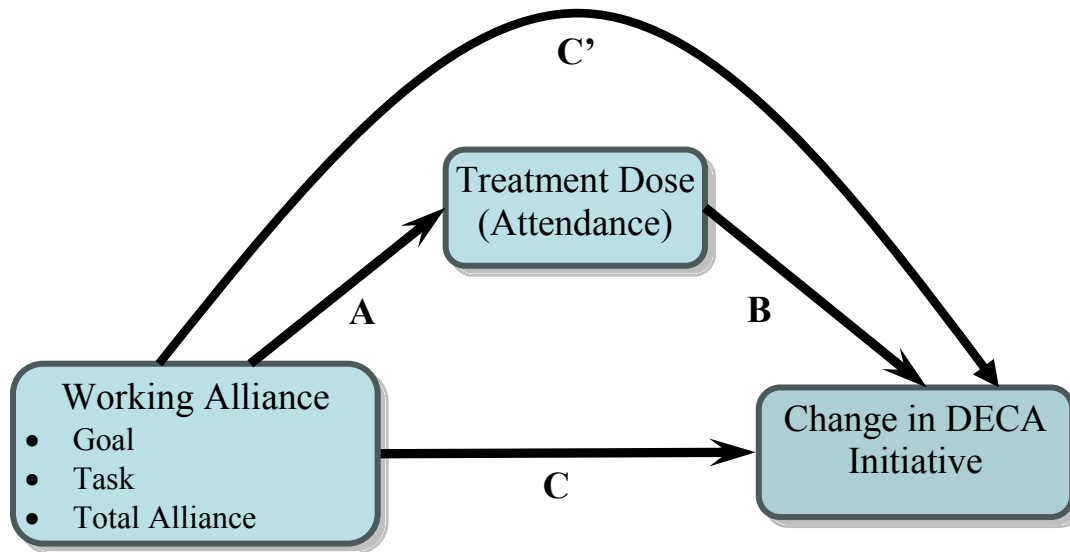
*** $p < .001$, ** $p < .01$, * $p < .05$, † $p < .10$

This analysis also found no significant relationship between the working alliance scales and change in total protective factors in the child observed by the interventionist.

Supplemental Analysis

The previous analysis yielded three significant relationships: the goal, task, and total working alliance endorsed by the parent appeared to predict increased changes in the child's observed initiative behaviors. However, as discussed previously, working alliance also consistently predicts treatment participation, which may account for the improvement in outcomes related to alliance. Conversely, alliance may also have a direct role on outcomes that is unrelated to treatment exposure. To examine this possibility, mediator analysis was conducted, utilizing SPSS macros provided by Preacher and Hayes (2004).

Figure 3. Potential mediation between working alliance scales, treatment dose, and change in initiative.



As described by Baron and Kenny (1986), and further discussed by Holmbeck (1997), mediation models assume a causal relationship between variables. In the current study, positive working alliance may increase treatment participation, which may cause improved outcomes due to the increased exposure to treatment. According to Baron and Kenny, the following three conditions need to be true to indicate that mediation has occurred:

Condition 1: The independent variable(s), in this case, the working alliance scales listed in figure 3, need to demonstrate a significant relationship with the dependent variable, change in DECA initiative scores. This relationship is diagrammed as path C in figure 3.

Condition 2: The independent variable must demonstrate a significant relationship with the potential mediating variable, diagrammed as path A in figure 3. In this case, goal, task, and total working alliance must each predict treatment attendance.

Condition 3: The mediator must predict the dependent variable, after controlling for the influence of the independent variable. This relationship is diagrammed in figure 3 as the path B

relationship, after controlling for the influence of path A. In this case, treatment attendance must predict changes in child initiative, after controlling for goal, task, and total working alliance in each individual analysis.

The sole influence of the independent variable can also be measured by controlling for the influence of the mediator (the sole influence of the independent variable is diagrammed as path C'). The impact of the independent variable on the dependent variable, through the mediator, termed the *indirect effect*, can also be examined by subtracting the C' from C. When the effect of path C is 0 when the mediator is subtracted, complete mediation is said to have occurred. When it is reduced by a nontrivial amount, partial mediation is said to have occurred.

Barron and Kenny (1986) also describe a procedure developed by Sobel (1982) that allows for a more direct test of the significance of the indirect effect relationship. However, other authors have argued that the Sobel test has limited applicability, due to the assumption that the sample size is large, and the methods of Barron and Kenny have also been criticized as having generally low statistical power (MacKinnon & Fairchild, 2009). To address this problem, several authors have argued that a more accurate method for assessing mediation should include a nonparametric estimate of the indirect effect, known as *bootstrapping*, to examine the potential for type II error when the Sobel test proves insignificant (MacKinnon & Fairchild, 2009; MacKinnon, Lockwood, & Williams, 2004; Preacher & Hayes, 2004). As low power is a limitation in the current study, this method was included in addition to the causal steps method and Sobel test described by Barron and Kenny.

As previously shown in table 7, the goal, task, and total alliance scales were found to have a significant impact on the change in child initiative scores, indicating that condition 1 has

been met for these three variables. To examine condition 2, three separate linear regressions were conducted, utilizing the working alliance variables as predictors and the number of family sessions attended as dependent variables. The results of these analyses are included in table 10.

Table 10. Single linear regressions of significant WAI scales, predicting session attendance during the 6-month study period.

<i>WAI Scale</i>	<i>B</i>	<i>SE B</i>	<i>β</i>	<i>R²</i>
Goal	1.296	.418	.551**	.304
Task	1.025	.265	.636***	.405
Total Alliance	.550	.137	.651***	.424

*** $p < .001$, ** $p < .01$, * $p < .05$, † $p < .10$

Condition 2 was met for the goal, task, and total alliance scales, all three were all found to positively predict treatment participation.

To examine the final condition of the mediation model, condition 3, a series of hierarchical linear regressions were conducted. In three separate analyses, the significant alliance scales (goal, task, and total alliance) were entered at step 1, and treatment attendance was entered at step 2. The results of these analyses are described in tables 11-13 below.

Table 11. Hierarchical linear regression analysis of WAI goal scale and session attendance predicting change in DECA initiative scores.

$R^2 = .306$

<i>Variables</i>	<i>B</i>	<i>SE B</i>	β	ΔR^2
Step 1				
WAI Goal	1.468	.704	.407*	.165
Step 2				
WAI Goal	.572	.787	.158	.141
Sessions Attended	.692	.335	.450*	

*** $p < .001$, ** $p < .01$, * $p < .05$, † $p < .10$

Table 12. Hierarchical linear regression analysis of WAI task and session attendance predicting change in DECA initiative scores.

$R^2 = .327$

<i>Variables</i>	<i>B</i>	<i>SE B</i>	β	ΔR^2
Step 1				
WAI Task	1.220	.459	.493*	.243
Step 2				
WAI Task	.627	.574	.253	.084
Sessions Attended	.579	.356	.377	

*** $p < .001$, ** $p < .01$, * $p < .05$, † $p < .10$

Table 13. Hierarchical linear regression analysis of WAI total and session attendance predicting change in DECA initiative scores.

$$R^2 = .345$$

<i>Variables</i>	<i>B</i>	<i>SE B</i>	β	Δr^2
Step 1				
WAI Total Alliance	.687	.235	.529**	.280
Step 2				
WAI Total Alliance	.403	.302	.311	.065
Sessions Attended	.515	.357	.335	

*** $p < .001$, ** $p < .01$, * $p < .05$, † $p < .10$

These three analyses demonstrated that treatment exposure did not appear to significantly mediate the impact of the *task* and *total* alliance on change in children's initiative scores, as family sessions attended did not demonstrate a significant impact on change in initiative scores after these alliance scales were controlled for. However, treatment exposure did appear to partially mediate the relationship between the *goal* alliance and treatment outcome. The significance of the indirect effect only approached significance, however, when the Sobel test was applied ($B = .896$, $p = .097$).

Due to the concerns previously discussed regarding the use of the Sobel test, as well as the causal steps approach with small samples, bootstrapping was utilized to estimate the likelihood that the goal alliance demonstrated a significant indirect effect on change in initiative scores through treatment participation (MacKinnon et al., 2004; Preacher & Hayes, 2004). Using a value of 5000 re-samples, the indirect effect was estimated to be between $-.029$ and 1.770 , with

95% confidence ($M = .8581$, $SE = .4534$, $p = .05$). As bootstrapping concluded that more than estimated indirect effects were generally above 0, it is generally likely that family session attendance did significantly mediate the relationship between goal alliance and change in DECA initiative scores.

Although family session attendance did not appear to mediate the relationship between *task* and *total* alliance scores and change in children's initiative as, based on the results of the causal steps method, the possibility that mediation is occurring between these variables cannot be ruled out due to the low power of the current analyses. As discussed previously, mediation effects are difficult to detect in small samples. It is also notable that in the previous hierarchical regressions, the beta values of the task and total alliance variables were noticeably reduced when family treatment participation was added to the equation, which may indicate that partial mediation would be detected in a larger sample with similar results.

V. DISCUSSION

Summary

This study had two main hypotheses. The first prediction was that the parent-therapist alliance would predict an increase in attachment-related protective factors in the children receiving services. The results indicated that this hypothesis was only partially supported. Only specific aspects of the therapeutic alliance predicted improved child outcomes, and they only predicted improvement in the child's observed initiative behavior. Agreement around the goals being worked on (the goal alliance), agreement surrounding the tasks of the intervention (the task alliance), and the total alliance (the combination of all three scales) predicted changes in the child's initiative behaviors. The bond alliance approached, but did not meet, significance in predicting change in initiative behavior. Although children in the sample also demonstrated changes in their scores on the DECA attachment scale (characterized by behaviors such as support seeking and engaging with others), as well as the DECA overall protective factors scale, these changes were not significantly related to the parent-therapist working alliance.

The second set of analyses attempted to scrutinize the findings described above, and to rule out the possibility that treatment exposure mediated the relationship between the parent-therapist relationship and child outcomes. The second main hypothesis predicted that mediation did not occur. While treatment exposure did not appear to mediate the influence of the task and total alliance on child outcomes, the arguments raised by Preacher and Hayes (2004) as well as MacKinnon and Fairchild (2009) encourage caution in ruling out the possibility of mediation. Utilizing the causal-steps approach, the influence of the goal alliance on child outcomes did appear to be mediated by treatment exposure, although a significant indirect effect was not detected when the Sobel test was applied.

Implications and limitations of findings

The results provided some support to the possibility that the parent-interventionist alliance may foster positive changes in the child's observed initiative behavior. There are three possible explanations for this finding: 1) as previously discussed, it is possible that the parent-interventionist relationship may have a direct impact on the parent's experience of attachment and interpersonal interactions, subsequently improving the parent's relationship and interactions with their child; 2) therapeutic alliance may have an indirect effect on outcomes through increased treatment exposure; or 3) alliance and treatment exposure may have a recursive relationship with each other, magnifying the importance of each as they impact treatment outcomes.

The child's initiative behavior, as measured by the DECA, is characterized by a willingness to explore the environment and engage in developmental challenges. To engage in initiative behavior, the child must have a sense that the environment is safe, as well as a sense that the parent will be accessible to support them should they need it. Before engaging in initiative behavior (for example, when exploring a novel environment), young children often engage in *social referencing*. They read the parent's facial expression for cues of danger or prohibition, and determine whether it is appropriate to explore the environment. Initiative is fostered in the child through the parent's ebullient reflection of the child's excitement, as well as their active encouragement of the child's attempts to master developmental tasks.

It is possible that the parent's belief in the collaborative process of the intervention — the sense that they are understood by the interventionist, and respected as part of a treatment team — encourages the parent to actively support the child in initiating behavior in the environment. In this sense, the relationship with the interventionist creates a sense of positive affect and

excitement in the parent, which leads them to reflect these sentiments to the child. The parent's experience of encouragement from the interventionist, as well as the experience of mastery gained through the treatment process, influenced their internal working models of self-in-interaction with others, as well as self-in-interaction with environmental challenges. The end result is that the child experiences the parent's sense of safety and encouragement, and is more willing to explore their environment and initiate developmental tasks.

However, due to the measurement design, it is not clear if the change in initiative scores are reflective of a fundamental change in the child's behavior, or a transient phenomenon caused by the presence of the interventionist. As discussed previously, priming someone with imagery associated with positive relationships appears to change behavior in the near term, but it is unclear what impact this priming process may have in the long-term. As the interventionist rated the child's behavior on the DECA, all observed behavior occurred with the interventionist present. The observed change in initiative behavior may have been a temporary reflection of the interventionist's presence on the parent's emotional experience and behavior in interaction with their child.

This explanation also assumes a causal relationship between the parent-provider alliance, changes in the parent's attachment representations and parenting behaviors, and attachment-related protective factors within the child. However, no direct measure of attachment representations or parenting behavior was utilized; it is not possible from the current study to determine if this model is accurate. There are also a number of other factors that may have influenced parental attachment representations and parenting behavior. These factors include contextual risk factors as well as parental factors such as unresolved trauma or loss, which may also have disrupted the parent's ability to form an alliance with the therapist. The families seen

in the program also received a diverse array of services, provided by interventionists of different disciplines and levels of education. There may have been undetected treatment effects based on specific aspects of these interventions that influenced parental attachment representations parenting behaviors, and the subsequent outcome. Additionally, the interventionist also may interact directly with the child in the course of the interventions examined. The relationship between the alliance and changes in the child's initiative behavior may be spurious. Both may be consequences of positive interactions with the therapist.

The second explanation for the current findings is that the therapeutic alliance's influence on the change in the child's initiative behavior is an indirect effect mediated by exposure to treatment, and consequently the specific ingredients of the process. It is notable that the two subscales of the WAI that proved to have an impact, the task and goal alliance, focused primarily on aspects of treatment related to the specific behaviors of the interventionist and client in session, as well as the client's attitudes towards the therapeutic process itself. This focus is exemplified in items such as, "We agree on what is important for me to work on" and "I feel that the things I do in therapy will help me to accomplish the changes that I want." Although there is some intercorrelation between the subscales of the WAI, the task and goals scales do not attempt to directly assess the emotional nature of the relationship. This influence is captured by the bond scale, which only approached significance in this case. The nonparametric bootstrapping technique utilized to estimate then possibility of an indirect effect also lent some support to this possibility.

Finally, it is also possible that the parent-interventionist alliance and treatment exposure are mutually influential factors in a recursive relationship, causally influencing each other as well as outcomes. In this case, alliance predicts increased treatment engagement and exposure.

Consequently, the client spends more time with the interventionist, and subsequently increases their exposure to the positive effects of the relationship, further improving outcome.

Additionally, the client is also increasingly exposed to the specific ingredients of treatment, which positively impact outcomes. The success experienced by the client further improves the client's belief in the treatment process, their faith in the therapist, and ultimately, the alliance. In a cycle of mutually influential positive experiences, alliance and exposure rise together, and have a synergistic impact on treatment outcomes.

Ultimately, while the current study found that the parent-interventionist alliance did have a limited impact on a specific domain of the child's functioning, it cannot be determined if this change was caused by the sole influence of the therapeutic relationship, treatment effects, or some combination of both factors. If a mediation relationship is present, it appears to be partial mediation, indicating that while the alliance seems to influence treatment participation, both factors may have an individual impact on parent-child outcomes.

The therapeutic alliance did not demonstrate a relationship with children's observed attachment related behavioral change on the DECA. It is not clear why a relationship would exist with the initiative scale, but not the attachment subscale of this measure, while both subscales showed similar levels of therapeutic change overall. It is possible that this is an accurate finding, and children's support seeking behavior changes through another mechanism. It is also possible that the lack of an observed relationship is a type II error, although this seems unlikely to do the generally low correlations between the alliance and attachment subscale's.

One possibility for the lack of findings may be a potential problem with the way that attachment behavior is operationalized on the DECA. The measure was designed to work in home as well as childcare settings, and the authors of the measure deliberately defined support

seeking behavior is quite broadly. Its questions are vaguely worded to include support seeking behaviors with adults beyond the parents-child attachment relationship; instead of referring to parents, the measure typically uses the wording “familiar adult.” For example, the attachment scale includes items such as *During the past 4 weeks, how often did the child enjoy interacting with others? Make eye contact with others? Respond positively to adult attention? Smile at a familiar adult? Accept comfort from a familiar adult?* This conceptualization of attachment related support seeking behavior is not entirely consistent with the support seeking behavior typically defined in the early childhood attachment literature (which typically focuses on the centrality of the parent-child relationship, and parental responsiveness to the child's cues). This broad definition of child support-seeking behaviors may not accurately capture the secure or insecure nature of the primary attachment relationship.

There a number of normative reasons which may explain why children would not seek support from adults beyond their primary caregivers. For example, a child may have a secure relationship with their parents, but be temperamentally shy, and less willing to engage other known adults, despite their familiarity. Additionally, in the current sample many of the children have been exposed to violence, and live in generally unsafe settings. In these settings, some avoidance of interactions with adults outside the primary attachment relationship may be somewhat adaptive. However, children that inhibit their engagement with other adults may receive low scores in this domain. Conversely, children with experiences of chronic abuse or neglect, or children that live in institutionalized settings often display indiscriminate attachment. In these cases, the child indiscriminately seeks support from virtually any adult, even strangers (Lieberman & Van Horn, 2008). In the latter case, the child may demonstrate a strength on the attachment subscale of the DECA, although in actuality their behavior is pathogenic.

In addition to operational problems with the DECA, there are also some potential limitations in utilizing the working alliance inventory to accurately measure the nature of the parent-interventionist relationship, especially the complex emotional aspects of this relationship (Emde et al., 1999). As described by some authors, the working alliance inventory is known to have high ceiling effects, due to the tendency of clients to rate their interventionist quite positively, even when provided the opportunity to rate them confidentially. However, as discovered by Korfmacher and Marchi (2002), when these relationships are examined with qualitative techniques, there is far more complexity in the relationship. This ceiling effect was certainly presents in the current sample, out of a total of 28 possible points, the mean ratings for the goal ($M = 26.1$, $SD = 2.0$), task ($M = 25.5$, $SD = 2.9$), and bond ($M = 25.7$, $SD = 2.0$) scales were relatively close to this ceiling. The limited variability may have impacted the results.

Methodological limitations

The most pressing limitation of the current findings is the small sample size utilized to obtain them. The small sample greatly increases the possibility of a type II error, and there remains a possibility that there is a moderate, but meaningful relationship between alliance the attachment scale, as well as overall child protective factors scales examined in this study. It is also possible the treatment exposure mediates this relationship. Additionally, the small sample size increases the likelihood that sampling error may have had an aberrant impact on the results.

There may have been some factors that systematically influenced the composition of the sample. As described previously, many families were not included in the sample due to life circumstances that interfered with treatment completion and data collection. Families who dropped out of treatment typically did so before the working alliance was collected, and it

remains a distinct possibility that these clients had a different experience of the alliance and those clients they continued with treatment throughout the course of the study period. The sample that was utilized in this study was limited in terms of the ethnicity of the participants (primary Caucasian and Mexican-American participants with various levels of acculturation). The results may not be applicable to other cultural groups.

There are several additional limitations to the design of this study that may compromise the interpretation or generalizability of the findings. As a study of process factors influencing treatment effectiveness in a community sample, there are a number of extra-therapeutic variables that may have influenced these results. Effectiveness studies, which utilize real-world treatment conditions and community samples, have better generalizability to real-world application, but lower experimental control than work with lab-based populations. This study also did not utilize a control group, which limits the ability to attribute any changes in the outcome variable to the influences of the treatment or process variables.

Implications for future research and practice

This study added some corroboration to previous findings regarding the importance of the therapeutic relationship in achieving positive outcomes in parenting interventions. However, the causal mechanism that underlies this relationship is not fully understood. Research on the transmission of attachment security has not yet been able to fully explain the interplay between parental attachment representations, parental interactive behavior (such as maternal sensitivity), and child attachment representations and interactive behavior. Future research will need to fully understand how these relationships impact the formation of attachment security before the

influence of an additional variable, the influence of the relationship with an interventionist, can be fully appreciated.

Furthermore, little is known about the mechanisms through which adult attachment representations are subject to change. It may be possible for individuals that were insecurely attached in childhood to change their attachment security through positive relationships later in life, eventually developing an 'earned secure' attachment in adulthood (Main & Goldwyn, 1994). While some preliminary evidence has demonstrated how attachment priming may positively influence immediate behavior, there have been few studies that have directly examined how an adult may be influenced to develop stable attachment representations later in life. Some preliminary evidence has demonstrated that intimate relationships can influence individuals to develop increased security as well as attachment coherence (Crowell, Treboux, & Waters, 2002; Paley, Cox, Burchinal, & Payne, 1999; Scharfe & Cole, 2006). However, it is unclear if the intimacy and reflection sometimes experienced in the therapeutic relationship would have the same impact.

Previous findings as well as the current study also indicate a number of methodological considerations for future research. First, it will be important to consider how specific measures operationalize attachment security when selecting measurement tools. The most effective adult measure is the *Adult Attachment Interview*, which appears to directly examine adult attachment representations. It is notable that this measure eschews a simple self-report format for a qualitative interview, resulting in an independent rating of the coherence of the individual's narrative. Similarly, qualitative methods appear to result in richer, more accurate depictions of the therapeutic relationship than self-report surveys (Korfmacher & Marchi, 2002; Pharis & Levin, 1991). It may be that methods similar to those used to understand adult attachment

representations will be necessary to effectively measure the complexity of the client-interventionist relationship, and the impact this relationship has on the parent's security. The subtle complexities of alliance remain difficult to ascertain and harder to quantify.

For children, there are a number of excellent observational measures of attachment, such as the *Ainsworth Strange Situation* (Ainsworth & Bell, 1970) or the *Attachment Q-sort* (Waters & Deane, 1985), which may provide a more accurate measure of these constructs than other measures. Second, it will be important to link these intra-psychic constructs to measures of parent-child interactive behavior, to understand how internal working models of attachment are transmitted through this dialogue. Finally, the apparently complex relationships between these variables seem to indicate that theoretical clarity, subsequently informing the development of accurate, valid measures, will be necessary to fully understand these factors and their relationships. Advanced data analysis techniques may also be necessary to detect the possibility of indirect mediation effects, moderation, or recursive relationships between variables. Luckily, a number of new techniques have been developed to address the increasingly complex models that are being derived from decades of previous research (Holmbeck, 1997; MacKinnon & Fairchild, 2009).

The current sample presented with some additional methodological problems due to the complexity of the cases served, increasing the risk that confounding variables may influence outcomes. While this may appear to indicate the need for increased controls, and the use of samples with fewer risk factors, these measures would severely limit the generalizability of any findings. Laboratory-based efficacy research appears to have limited applicability for the treatment of real-world problems in attachment. Attachment interventions are typically applied to families in the community with the greatest risk for attachment disturbances. These families are,

by definition, multi-risk families, as a diverse array of risk factors are linked to problems in the parent-child relationship (Spieker & Booth, 1988; Spieker et al., 1999). Interventions that have been developed in laboratories in initial efficacy trials typically suffer reduced or insignificant effects when deployed in community settings (Weisz, Donenberg, Han, & Kauneckis, 1995; Weisz, Donenberg, Han, & Weiss, 1995), and it remains unclear what factors in community settings lead to these poorer outcomes (B. J. Burns, Hoagwood, & Mrazek, 1999). For these reasons, it is imperative that parent-child attachment interventions be examined utilizing the complex populations they are expected to treat. Further research should focus on effectiveness trials which incorporate client characteristics and local community conditions (L. W. Green, 2001; Wandersman, 2003).

Regardless of the causal mechanism impacting change, a positive therapeutic relationship is of central importance in the practice of psychotherapy. It has been demonstrated to have a clear impact on treatment outcomes in the adult treatment literature, and it is beginning to demonstrate importance in the parenting and children's treatment literature as well (Karver et al., 2006). It remains the single best predictor of success in treatment, and its importance cannot be underestimated (Horvath & Bedi, 2002). As demonstrated in the current study, as well as previous research, a positive alliance predicts improved treatment attendance, increasing the chances that the client will be available to the influence of therapy. By continuing to participate in treatment, the client indicates that they accept the intervention, and that they believe that it will be beneficial to them. It remains a necessity for treatment itself to occur, and for this reason alone it remains an important consideration for effective practice.

Beyond the impact of increasing treatment engagement, there is also some evidence that indicates the relationship itself may play a direct curative role. Some therapists appear to be

clearly more effective than others. The most effective therapists have a special ability to recognize subtle breaches in the alliance, as well as subtle cues that indicate that clients are at risk of early termination. Effectiveness is not related to years of experience or level of training (Baldwin et al., 2007; D. M. Kim et al., 2006; Wampold & Brown, 2005). This would appear to indicate that the person of the therapist, their ability to be with the client and intuitively understand their experience, has a greater impact on outcomes than the specific ingredients of treatment approaches. Effective therapists appear simply be better at attending to the client's experience of therapy, and fostering the client's individual theory of change. Due to these findings, some recent authors have advocated that attendance to the relationship should be a central aspect of service delivery. Miller, Duncan, and Sparks (2004), for example, stress an approach that seeks to repair subtle breaches in the alliance, while mirroring and fostering the client's personal theory of what is beneficial to them.

It is unclear what implications these findings in the adult literature may have on practices for early childhood interventions. The current study was unable to conclusively demonstrate that the therapeutic alliance had a consistent impact on child outcomes. The impact it did appear to have could not be separated from the influence of the components of treatment itself. However, several qualitative studies have demonstrated, through the direct voices of the clients themselves, that there are aspects of the relationship that are transformative despite the fact that they defy measurement (Pharis & Levin, 1991). The client's description of the therapeutic relationship in these studies paralleled the attachment relationship - the relationship was characterized by an experience of trust, safety, contingent responding, and emotional resonance.

The central importance of supportive relationships is a foundational aspect of attachment theory. Consequently a focus on the therapeutic relationship has been a central focus of

attachment interventions from the beginning of their development. Attachment experiences extend throughout an individual's relationships through the parallel process of interactive relationships with others. *Reflective supervision* is an approach that emphasizes developing a trustworthy, responsive supervision environment that is patient and nurturing, similar to a secure attachment relationship (Gilkerson & Shahmoon-Shanok, 1999), in part to model and foster similar supervisee-client relationships. Pawl (1995) sums this up succinctly in a maxim known as the *platinum rule*: "do unto others as you would have others do unto others."

Attachment interventions are, fundamentally, relationship interventions, designed to strengthen the social fabric that allows both parents and their children to expand their self-awareness, resolve difficult emotions, overcome challenges, and ultimately, recognize their value. We understand ourselves through the eyes of others, and this connection not only contributes to the resolution of our suffering, it fosters our fundamental humanity.

APPENDICES

*Ethical Assurances***Insuring Informed Consent of Participants in Research:
Questions to be answered by AUSB Researchers**

1. Are your proposed participants capable of giving informed consent? Are the persons in your research population in a free-choice situation?...or are they constrained by age or other factors that limit their capacity to choose? For example, are they adults, or students who might be beholden to the institution in which they are enrolled, or prisoners, or children, or mentally or emotionally disabled? How will they be recruited? Does the inducement to participate significantly reduce their ability to choose freely or not to participate?

The participants involved in this archival study are parents and their young children (ages 0-5) who participated in treatment services at a local agency. The parents were capable of freely giving consent or declining to participate in the assessments utilized in the course of the treatment program. They were not given an inducement to complete the measures or participate in services. Consent for the children's involvement was provided by the parent.

The assessment of the child (DECA) was filled out by the provider based on their natural observations as a routine part of treatment, and was utilized to inform treatment and improve service delivery. While the child was involved in the treatment process, no additional participation is required for the provider to complete this assessment.

2. How are your participants to be involved in the study?

In the course of receiving services, parent participants filled out an assessment of their relationship with their treatment provider (the *Working Alliance Inventory-WAI*), the results of which were kept confidential from the provider. Additionally, they completed measures assessing child behavior problems (the *Child Behavior Checklist – CBCL*), and parental stress (the *Parenting Stress Index – PSI*). The treatment provider also completed an assessment of observed protective factors in the child at the beginning of services, and following six months of services (the *Devereux Early Childhood Assessment-DECA*). The DECA is routinely completed by the provider in the course of service delivery in the program, and the results are shared with the parent and utilized in service planning.

3. What are the potential risks – physical, psychological, social, legal, or other? If you feel your participants will experience “no known risks” of any kind, indicate why you believe this to be so. If your methods do create potential risks, say why other methods you have considered were rejected in favor of the method chosen.

No known risks are expected from the administration of this study. The study utilizes archival data from participants who participated in treatment services, there are no additional risks posed to participants by analyzing their assessment data. As described below, efforts will be taken by the researcher to protect anonymity.

4. What procedures, including procedures to safeguard confidentiality, are you using to protect against or minimize potential risks, and how will you assess the effectiveness of those procedures?

Confidentiality will be protected by removing any identifying information, such as name, related to individual scores from the study data. Participant data will be stored digitally, and each participant will be assigned a number to insure anonymity. Electronic files will be password protected and will not be transmitted over email or internet file transfer. All paper files are stored in locked filing cabinets at the agency, and are only accessed by authorized agency staff. These measures have proven effective for protecting participant confidentiality in previous studies conducted at the agency.

5. Have you obtained (or will you obtain) consent from your participants in writing? (Attach a copy of the form.)

Upon intake into services in the Great Beginnings Program, all clients provide informed consent for treatment. Additionally, they also sign an agreement to allow data from assessment materials to be analyzed for research and quality assurance purposes.

Copies of the Spanish and English versions of these forms are attached.

6. What are the benefits to society, and to your participants that will accrue from your investigation?

Results from the proposed study will be used to inform immediate and long-term parenting interventions and treatment for young children in high-risk situations. Findings will assist treatment providers in modifying existing treatment and treatment approaches to make them more helpful to the families served. Ultimately, it is hoped that findings from this study will contribute to increasing positive parenting practices, and reducing the likelihood that the involved children will experience abuse, neglect, or adverse outcomes in social-emotional functioning.

Additionally, the proposed study will help to address the paucity of research in three areas: 1) early-childhood parent-child interventions, 2) the role of parent-therapist therapeutic alliance, and 3) process factors relating to the effectiveness of empirically-derived treatment in applied community settings. Research on children's interventions in applied community settings has become a major area of focus nationally, due to a well-documented gap between research and practice, which hampers the effectiveness of treatments and the potential benefits they may pose to clients.

7. Do you judge that the benefits justify the risks in your proposed research? Indicate why.

The benefits in the proposed study greatly outweigh the risks. There are no known risks posed by the current study. Any findings that are found could potentially have a substantial impact in improving the effectiveness of the treatment intervention, and subsequently the lives of the children and families served.

Both the student and his/her Dissertation Chair must sign this form and submit it before any research begins. Signatures indicate that, after considering the questions above, both student and faculty person believe that the conditions necessary for informed consent have been satisfied.

Date: _____

Signed: _____
Student

Date: _____

Signed: _____
Dissertation Chair

Working Alliance Inventory – Short Form - Revised

Client Name: _____ Date: _____

Below is a list of statements that describe some of the different ways a person might think or feel about his or her counselor. Next to each statement is a seven-point scale:

1	2	3	4	5	6	7
Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always

Read each statement and circle your level of agreement for each item. If the statement describes the way you **always** think or feel, circle “7 - always;” if it **never** applies to you, circle number “1 - never.” Use the numbers in between to describe the difference between the extremes. **Your answers will not be shared with your therapist.**

1. My counselor and I collaborate on setting goals for my therapy.	1	2	3	4	5	6	7
	Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always
2. What I am doing in therapy gives me new ways of looking at my problem.	1	2	3	4	5	6	7
	Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always
3. I believe my counselor likes me.	1	2	3	4	5	6	7
	Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always
4. I feel that the things I do in therapy will help me to accomplish the changes that I want.	1	2	3	4	5	6	7
	Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always
5. I feel my counselor cares about me even when I do things that they do not approve of.	1	2	3	4	5	6	7
	Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always
6. My counselor and I are working towards mutually agreed upon goals.	1	2	3	4	5	6	7
	Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always
7. I feel that my counselor appreciates me.	1	2	3	4	5	6	7
	Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always
8. We agree on what is important for me to work on.	1	2	3	4	5	6	7
	Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always
9. As a result of these sessions I am clearer as to how I might be able to change.	1	2	3	4	5	6	7
	Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always
10. My counselor and I respect each other.	1	2	3	4	5	6	7
	Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always
11. We have established a good understanding of the kind of changes that would be good for me.	1	2	3	4	5	6	7
	Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always
12. I believe the way we are working with my problem is correct.	1	2	3	4	5	6	7
	Never	Rarely	Occasionally	Sometimes	Often	Very Often	Always

Dissertation Committee Approval Form

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References

- Abela, Hankin, Haigh, Adams, Vinokuroff, & Trayhern. (2005). Interpersonal vulnerability to depression in high-risk children: The role of insecure attachment and reassurance seeking. *Journal of Clinical Child and Adolescent Psychology, 34*(1), 182-192.
- Abouguendia, Joyce, Piper, & Ogrodniczuk. (2004). Alliance as a mediator of expectancy effects in short-term group psychotherapy. *Group Dynamics: Theory, Research, and Practice, 8*(1), 3-12.
- Ahn, & Wampold. (2001). Where oh where are the specific ingredients? A meta-analysis of component studies in counseling and psychotherapy. *Journal of Counseling Psychology, 48*(3), 251-257.
- Ainsworth, & Bell. (1970). Attachment, exploration, and separation: Illustrated by the behavior of one-year-olds in a strange situation. *Child Development, 41*(1), 49-67.
- Ainsworth, Blehar, Waters, & Wall. (1978). *Patterns of attachment: A psychological study of the strange situation*. Oxford, England: Lawrence Erlbaum.
- Ammaniti, Tambelli, Zavattini, Vismara, & Volpi. (1999). Attacamento e funzione riflessiva in adolescenza. *Psicologia Clinica dello Sviluppo, 3*(1), 155-175.
- Anan, & Barnett. (1999). Perceived social support mediates between prior attachment and subsequent adjustment: A study of urban African American children. *Developmental Psychology, 35*(5), 1210-1222.
- Arend, Gove, & Sroufe. (1979). Continuity of individual adaptation from infancy to kindergarten: A predictive study of ego-resiliency and curiosity in preschoolers. *Child Development, 50*(4), 950-959.

- Arnkoff, Glass, & Shapiro. (2002). Expectations and preferences. In Norcross, J. C. (Ed.), *Psychotherapy relationships that work: Therapist contributions and responsiveness to patients*. (pp. 335-356). New York, NY: Oxford University Press.
- Baer, & Martinez. (2006). Child maltreatment and insecure attachment: A meta-analysis. *Journal of Reproductive and Infant Psychology*, 24(3), 187-197.
- Bakermans-Kranenburg, van Ijzendoorn, & Juffer. (2003). Less is more: Meta-analyses of sensitivity and attachment interventions in early childhood. *Psychological Bulletin*, 129(2), 195-215.
- Bakermans-Kranenburg, van Ijzendoorn, & Juffer. (2005). Disorganized infant attachment and preventive interventions: A review and meta-analysis. *Infant Mental Health Journal*, 26(3), 191-216.
- Bakermans-Kranenburg, van Ijzendoorn, & Kroonenberg. (2004). Differences in attachment security between african-american and white children: Ethnicity or socio-economic status? *Infant Behavior & Development*, 27(3), 417-433.
- Bakermans-Kranenburg, van Ijzendoorn, Mesman, Alink, & Juffer. (2008). Effects of an attachment-based intervention on daily cortisol moderated by dopamine receptor d4: A randomized control trial on 1- to 3-year-olds screened for externalizing behavior. *Development and Psychopathology*, 20(3), 805-820.
- Baldwin, Wampold, & Imel. (2007). Untangling the alliance-outcome correlation: Exploring the relative importance of therapist and patient variability in the alliance. *Journal of Consulting and Clinical Psychology*, 75(6), 842-852.
- Bar-Haim, Dan, Eshel, & Sagi-Schwartz. (2007). Predicting children's anxiety from early attachment relationships. *Journal of Anxiety Disorders*, 21(8), 1061-1068.

- Barber, Gallop, Crits-Christoph, Frank, Thase, Weiss, et al. (2006). The role of therapist adherence, therapist competence, and alliance in predicting outcome of individual drug counseling: Results from the national institute drug abuse collaborative cocaine treatment study. *Psychotherapy Research, 16*(2), 229-240.
- Barber, Luborsky, Gallop, Crits-Christoph, Frank, Weiss, et al. (2001). Therapeutic alliance as a predictor of outcome and retention in the national institute on drug abuse collaborative cocaine treatment study. *Journal of Consulting and Clinical Psychology, 69*(1), 119-124.
- Barnett, Ganiban, & Cicchetti. (1999). Maltreatment, negative expressivity, and the development of type d attachments from 12 to 24 months of age. *Monographs of the Society for Research in Child Development, 64*(3), 97-118.
- Baron, & Kenny. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51*(6), 1173-1182.
- Bauminger, & Kimhi-Kind. (2008). Social information processing, security of attachment, and emotion regulation in children with learning disabilities. *Journal of Learning Disabilities, 41*(4), 315-332.
- Belsky. (1980). Child maltreatment: An ecological integration. *American Psychologist, 35*(4), 320-335.
- Belsky, & Fearon. (2002). Early attachment security, subsequent maternal sensitivity, and later child development: Does continuity in development depend upon continuity of caregiving? *Attachment & Human Development, 4*(3), 361-387.
- Benoit, Bouthillier, Moss, Rousseau, & Brunet. (2010). Emotion regulation strategies as mediators of the association between level of attachment security and PTSD symptoms

- following trauma in adulthood. *Anxiety, Stress & Coping: An International Journal*, 23(1), 101-118.
- Bergin, & McCollough. (2009). Attachment in substance-exposed toddlers: The role of caregiving and exposure. *Infant Mental Health Journal*, 30(4), 407-423.
- Berlin, & Cassidy. (2003). Mothers' self-reported control of their preschool children's emotional expressiveness: A longitudinal study of associations with infant-mother attachment and children's emotion regulation. *Social Development*, 12(4), 477-495.
- Bernal, Bonilla, Padilla-Cotto, & Perez-Prado. (1998). Factors associated to outcome in psychotherapy: An effectiveness study in puerto rico. *Journal of Clinical Psychology*, 54(3), 329-342.
- Bigelow, MacLean, Proctor, Myatt, Gillis, & Power. (2010). Maternal sensitivity throughout infancy: Continuity and relation to attachment security. 33(1), 50-60.
- Blair, & Diamond. (2008). Biological processes in prevention and intervention: The promotion of self-regulation as a means of preventing school failure. *Development and Psychopathology*, 20(3), 899-911.
- Bohlin, Hagekull, & Andersson. (2005). Behavioral inhibition as a precursor of peer social competence in early school age: The interplay with attachment and nonparental care. *Merrill-Palmer Quarterly*, 51(1), 1-19.
- Bokhorst, Bakermans-Kranenburg, Fearon, van Ijzendoorn, Fonagy, & Schuengel. (2003). The importance of shared environment in mother-infant attachment security: A behavioral genetic study. *Child Development*, 74(6), 1769-1782.
- Bordin. (1979). The generalizability of the psychoanalytic concept of the working alliance. *Psychotherapy: Theory, Research & Practice*, 16(3), 252-260.

- Bordin. (1994). Theory and research on the therapeutic working alliance: New directions. In Horvath, A. O. & Greenberg, L. S. (Eds.), *The working alliance: Theory, research, and practice*. (pp. 13-37). Oxford, England: John Wiley & Sons.
- Borelli, David, Crowley, & Mayes. (2010). Links between disorganized attachment classification and clinical symptoms in school-aged children. *Journal of Child and Family Studies*, *19*(3), 243-256.
- Bornstein, & Tamis-LeMonda. (1989). Maternal responsiveness and cognitive development in children. In Bornstein, M. H. (Ed.), *Maternal responsiveness: Characteristics and consequences*. (pp. 49-61). San Francisco, CA: Jossey-Bass.
- Bosmans, Braet, Van Leeuwen, & Beyers. (2006). Do parenting behaviors predict externalizing behavior in adolescence, or is attachment the neglected 3rd factor? *Journal of Youth and Adolescence*, *35*(3), 373-383.
- Bosquet, & Egeland. (2006). The development and maintenance of anxiety symptoms from infancy through adolescence in a longitudinal sample. *Development and Psychopathology*, *18*(2), 517-550.
- Bost, Vaughn, Washington, Cielinski, & Bradbard. (1998). Social competence, social support, and attachment: Demarcation of construct domains, measurement, and paths of influence for preschool children attending head start. *Child Development*, *69*(1), 192-218.
- Bowlby. (1983). Attachment and loss: Retrospect and prospect. *Annual Progress in Child Psychiatry & Child Development*, 29-47.
- Bradley. (1989). Home measurement of maternal responsiveness. In Bornstein, M. H. (Ed.), *Maternal responsiveness: Characteristics and consequences*. (pp. 63-74). San Francisco, CA: Jossey-Bass.

- Bronfenbrenner. (1977). Toward an experimental ecology of human development. *American Psychologist*, 32(7), 513-531.
- Brown, & O'Leary. (2000). Therapeutic alliance: Predicting continuance and success in group treatment for spouse abuse. *Journal of Consulting and Clinical Psychology*, 68(2), 340-345.
- Brown, Schoppe-Sullivan, Mangelsdorf, & Neff. (2010). Observed and reported supportive coparenting as predictors of infant-mother and infant-father attachment security. *180(1-2)*, 121-137.
- Bugental, Ellerson, Lin, Rainey, Kokotovic, & O'Hara. (2002). A cognitive approach to child abuse prevention. *Journal of Family Psychology*, 16(3), 243-258.
- Burgess, Marshall, Rubin, & Fox. (2003). Infant attachment and temperament as predictors of subsequent externalizing problems and cardiac physiology. *Journal of Child Psychology and Psychiatry*, 44(6), 819-831.
- Burns, Chethik, Burns, & Clark. (1991). Dyadic disturbances in cocaine-abusing mothers and their infants. *Journal of Clinical Psychology*, 47(2), 316-319.
- Burns, Chethik, Burns, & Clark. (1997). The early relationship of drug abusing mothers and their infants: An assessment at eight to twelve months of age. *Journal of Clinical Psychology*, 53(3), 279-287.
- Burns, Hoagwood, & Mrazek. (1999). Effective treatment for mental disorders in children and adolescents. *Clinical Child and Family Psychology Review*, 2(4), 199-254.
- Busseri, & Tyler. (2003). Interchangeability of the working alliance inventory and working alliance inventory, short form. *Psychological Assessment*, 15(2), 193-197.

- Butler, & Eyberg. (2006). Parent-child interaction therapy and ethnic minority children. *Vulnerable Children and Youth Studies, 1*(3), 246-255.
- Campbell, Brownell, Hungerford, Spieker, Mohan, & Blessing. (2004). The course of maternal depressive symptoms and maternal sensitivity as predictors of attachment security at 36 months. *Development and Psychopathology, 16*(2), 231-252.
- Campbell, Cohn, & Meyers. (1995). Depression in first-time mothers: Mother-infant interaction and depression chronicity. *Developmental Psychology, 31*(3), 349-357.
- Carlson. (1998). A prospective longitudinal study of attachment disorganization/disorientation. *Child Development, 69*(4), 1107-1128.
- Carlson, Cicchetti, Barnett, & Braunwald. (1989). Finding order in disorganization: Lessons from research on maltreated infants' attachments to their caregivers. In Cicchetti, D. & Carlson, V. (Eds.), *Child maltreatment: Theory and research on the causes and consequences of child abuse and neglect*. (pp. 494-528). New York, NY: Cambridge University Press.
- Carlson, Sroufe, Collins, Jimerson, Weinfield, Henninghausen, et al. (1999). Early environmental support and elementary school adjustment as predictors of school adjustment in middle adolescence. *Journal of Adolescent Research, 14*(1), 72-94.
- Carter, Garrity-Rokous, Chazan-Cohen, Little, & Briggs-Gowan. (2001). Maternal depression and comorbidity: Predicting early parenting, attachment security, and toddler social-emotional problems and competencies. *Journal of the American Academy of Child & Adolescent Psychiatry, 40*(1), 18-26.

- Caspers, Cadoret, Langbehn, Yucuis, & Troutman. (2005). Contributions of attachment style and perceived social support to lifetime use of illicit substances. *Addictive Behaviors, 30*(5), 1007-1011.
- Chaffin, Silovsky, Funderburk, Valle, Brestan, Balachova, et al. (2004). Parent-child interaction therapy with physically abusive parents: Efficacy for reducing future abuse reports. *Journal of Consulting and Clinical Psychology, 72*(3), 500-510.
- Chalmers. (1992). Giving and receiving: An empirically derived theory on health visiting practice. *Journal of Advanced Nursing, 17*, 1317-1325.
- Chalmers. (1994). Difficult work: Health visitors' work with clients in the community. *International Journal of Nursing Studies, 31*(2), 168-182.
- Chalmers, & Luker. (1991). The development of the health visitor-client relationship. *Scandinavian Journal of Caring Sciences, 5*(1), 33-41.
- Chandler. (1981). The source of stress inventory. *Psychology in the Schools, 18*(2), 164-168.
- Child maltreatment*. (2004).). Washington, DC: Department of Health and Human Services.
- Cicchetti, Ganiban, & Barnett. (1991). Contributions from the study of high-risk populations to understanding the development of emotion regulation. In Garber, J. & Dodge, K. A. (Eds.), *The development of emotion regulation and dysregulation*. (pp. 15-48). New York, NY: Cambridge University Press.
- Cicchetti, & Lynch. (1993). Toward an ecological/transactional model of community violence and child maltreatment: Consequences for children's development. *Psychiatry: Interpersonal and Biological Processes, 56*(1), 96-118.

- Cicchetti, Rogosch, & Toth. (2006). Fostering secure attachment in infants in maltreating families through preventive interventions. *Development and Psychopathology*, 18(3), 623-649.
- Cloitre, Chase Stovall-McClough, Miranda, & Chemtob. (2004). Therapeutic alliance, negative mood regulation, and treatment outcome in child abuse-related posttraumatic stress disorder. *Journal of Consulting and Clinical Psychology*, 72(3), 411-416.
- Cohn, Campbell, Matias, & Hopkins. (1990). Face-to-face interactions of postpartum depressed and nondepressed mother-infant pairs at 2 months. *Developmental Psychology*, 26(1), 15-23.
- Colin. (1991). *Infant attachment: What we know now*. Washington, DC: U.S. Department of Health and Human Services.
- Colman, & Thompson. (2002). Attachment security and the problem-solving behaviors of mothers and children. *Merrill-Palmer Quarterly*, 48(4), 337-359.
- Crandell, Patrick, & Hobson. (2003). 'still-face' interactions between mothers with borderline personality disorder and their 2-month-old infants. *British Journal of Psychiatry*, 183(3), 239-247.
- Crittenden. (1985). Social networks, quality of child rearing, and child development. *Child Development*, 56(5), 1299-1313.
- Crowell, Treboux, & Waters. (2002). Stability of attachment representations: The transition to marriage. *Developmental Psychology*, 38(4), 467-479.
- Cyr, Euser, Bakermans-Kranenburg, & van Ijzendoorn. (2010). Attachment security and disorganization in maltreating and high-risk families: A series of meta-analyses. *Development and Psychopathology*, 22(1), 87-108.

- Dallaire, & Weinraub. (2005). Predicting children's separation anxiety at age 6: The contributions of infant-mother attachment security, maternal sensitivity, and maternal separation anxiety. *Attachment & Human Development, 7*(4), 393-408.
- Dallaire, & Weinraub. (2007). Infant-mother attachment security and children's anxiety and aggression at first grade. *Journal of Applied Developmental Psychology, 28*(5-6), 477-492.
- De Wolff, & van Ijzendoorn. (1997). Sensitivity and attachment: A meta-analysis on parental antecedents of infant attachment. *Child Development, 68*(4), 571-591.
- Demos, & Kaplan. (1986). Motivation and affect reconsidered: Affect biographies of two infants. *Psychoanalysis & Contemporary Thought, 9*(2), 147-221.
- DeMulder, Denham, Schmidt, & Mitchell. (2000). Q-sort assessment of attachment security during the preschool years: Links from home to school. *Developmental Psychology, 36*(2), 274-282.
- Denham, Caverly, Schmidt, Blair, DeMulder, Caal, et al. (2002). Preschool understanding of emotions: Contributions to classroom anger and aggression. *Journal of Child Psychology and Psychiatry, 43*(7), 901-916.
- Dew, & Bickman. (2005). Client expectancies about therapy. *Mental Health Services Research, 7*(1), 21-33.
- Diener, Nievar, & Wright. (2003). Attachment security among mothers and their young children living in poverty: Associations with maternal, child, and contextual characteristics. *Merrill-Palmer Quarterly, 49*(2), 154-182.

- Dozier, Peloso, Lewis, Laurenceau, & Levine. (2008). Effects of an attachment-based intervention of the cortisol production of infants and toddlers in foster care. *Development and Psychopathology*, 20(3), 845-859.
- DuMont, Mitchell-Herzfeld, Greene, Lee, Lowenfels, Rodriguez, et al. (2008). Healthy families new york (hfny) randomized trial: Effects on early child abuse and neglect. *Child Abuse & Neglect*, 32(3), 295-315.
- Duncan, Miller, & Sparks. (2004). *The heroic client* (4th ed.). San Francisco: Jossey-Bass.
- Eames, & Roth. (2000). Patient attachment orientation and the early working alliance: A study of patient and therapist reports of alliance quality and ruptures. *Psychotherapy Research*, 10(4), 421-434.
- Edwards, Eiden, & Leonard. (2006). Behavior problems in 18- to 36-month-old children of alcoholic fathers: Secure mother-infant attachment as a protective factor. *Development and Psychopathology*, 18(2), 395-407.
- Egeland, & Farber. (1984). Infant-mother attachment: Factors related to its development and changes over time. *Child Development*, 55(3), 753-771.
- Egeland, & Kreutzer. (1991). A longitudinal study of the effects of maternal stress and protective factors on the development of high-risk children. In Cummings, E. M., Greene, A. L. & Karraker, K. H. (Eds.), *Life-span developmental psychology: Perspectives on stress and coping*. (pp. 61-83). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.
- Egeland, & Sroufe. (1981). Attachment and early maltreatment. *Child Development*, 52(1), 44-52.

- Eiden, Ostrov, Colder, Leonard, Edwards, & Oorange-Torchia. (2010). Parent alcohol problems and peer bullying and victimization: Child gender and toddler attachment security as moderators. *Journal of Clinical Child and Adolescent Psychology, 39*(3), 341-350.
- Emde, Korfmacher, & Kubicek. (1999). Toward a theory of early relationship-based intervention. In Osofsky, J. D. & Fitzgerald, H. E. (Eds.), *WAIMH handbook of infant mental health, vol. 2: Early intervention, evaluation, and assessment* (pp. 3-27). New York: John Wiley & Sons.
- Erdfelder, Faul, & Buchner. (1996). Gpower: A general power analysis program. *Behavior Research Methods, Instruments & Computers, 28*(1), 1-11.
- Erel, & Burman. (1995). Interrelatedness of marital relations and parent-child relations: A meta-analytic review. *Psychological Bulletin, 118*(1), 108-132.
- Erickson, Sroufe, & Egeland. (1985). The relationship between quality of attachment and behavior problems in preschool in a high-risk sample. *Monographs of the Society for Research in Child Development, 50*(1-2), 147-166.
- Evans, & Porter. (2009). The emergence of mother-infant co-regulation during the first year: Links to infants' developmental status and attachment. *Infant Behavior & Development, 32*(2), 147-158.
- Eyberg. (1988). Parent-child interaction therapy: Integration of traditional and behavioral concerns. *Child & Family Behavior Therapy, 10*(1), 33-46.
- Eyberg, Boggs, & Algina. (1995). Parent-child interaction therapy: A psychosocial model for the treatment of young children with conduct problem behavior and their families. *Psychopharmacology Bulletin, 31*(1), 83-91.

- Eyberg, Funderburk, Hembree-Kigin, McNeil, Querido, & Hood. (2001). Parent-child interaction therapy with behavior problem children: One and two year maintenance of treatment effects in the family. *Child & Family Behavior Therapy, 23*(4), 1-20.
- Fearon, Bakermans-Kranenburg, van Ijzendoorn, Lapsley, & Roisman. (2010). The significance of insecure attachment and disorganization in the development of children's externalizing behavior: A meta-analytic study. *Child Development, 81*(2), 435-456.
- Fearon, van Ijzendoorn, Fonagy, Bakermans-Kranenburg, Schuengel, & Bokhorst. (2006). In search of shared and nonshared environmental factors in security of attachment: A behavior-genetic study of the association between sensitivity and attachment security. *Developmental Psychology, 42*(6), 1026-1040.
- Fenton, Cecero, Nich, Frankforter, & Carroll. (2001). Perspective is everything: The predictive validity working alliance instruments. *Journal of Psychotherapy Practice & Research, 10*(4), 262-268.
- Finger, Hans, Bernstein, & Cox. (2009). Parent relationship quality and infant-mother attachment. *Attachment & Human Development, 11*(3), 285-306.
- Fish. (2001). Attachment in low-ses rural Appalachian infants: Contextual, infant, and maternal interaction risk and protective factors. *Infant Mental Health Journal, 22*(6), 641-664.
- Fish. (2004). Attachment in infancy and preschool in low socioeconomic status rural Appalachian children: Stability and change and relations to preschool and kindergarten competence. *Development and Psychopathology, 16*(2), 293-312.
- Fitzgerald, & Barton. (1999). Infant mental health: Origins and emergence of an interdisciplinary field. In Osofsky, J. D. & Fitzgerald, H. E. (Eds.), *Waimh handbook of infant mental health, vol. 1: Perspectives on infant mental health*. New York: John Wiley & Sons.

- Fonagy. (2001). *Attachment theory and psychoanalysis*. New York, NY: Other Books.
- Fonagy, Gergely, Jurist, & Target. (2002). *Affect regulation, mentalization, and the development of the self*. New York, NY: Other Press.
- Fonagy, Steele, & Steele. (1991). Maternal representations of attachment during pregnancy predict the organization of infant-mother attachment at one year of age. *Child Development, 62*(5), 891-905.
- Fraiberg, Adelson, & Shapiro. (1980). Ghosts in the nursery: A psychoanalytic approach to the problems of impaired infant-mother relationships. In Fraiberg, S. (Ed.), *Clinical studies in infant mental health* (pp. 164-196). New York: Basic Books.
- Frank. (1973). *Persuasion and healing: A comparative study of psychotherapy*. Oxford, England: Johns Hopkins University Press.
- Frankel, & Bates. (1990). Mother-toddler problem solving: Antecedents in attachment, home behavior, and temperament. *Child Development, 61*(3), 810-819.
- Fuertes, Lopes-dos-Santos, Beeghly, & Tronick. (2009). Infant coping and maternal interactive behavior predict attachment in a Portuguese sample of healthy preterm infants. *European Psychologist, 14*(4), 320-331.
- Funderburk, Eyberg, Newcomb, McNeil, Hembree-Kigin, & Capage. (1998). Parent-child interaction therapy with behavior problem children: Maintenance of treatment effects in the school setting. *Child & Family Behavior Therapy, 20*(2), 17-38.
- Gaudiano, & Miller. (2006). Patients' expectancies, the alliance in pharmacotherapy, and treatment outcomes in bipolar disorder. *Journal of Consulting and Clinical Psychology, 74*(4), 671-676.

George, Kaplan, & Main. (1985). *The adult attachment interview*. Unpublished Manuscript.

University of California, Department of Psychology, Berkeley.

George, & Solomon. (1996). Representational models of relationships: Links between caregiving and attachment. *Infant Mental Health Journal*, 17(3), 198-216.

Gervai, Novak, Lakatos, Toth, Danis, Ronai, et al. (2007). Infant genotype may moderate sensitivity to maternal affective communications: Attachment disorganization, quality of care, and the drd4 polymorphism. *Social Neuroscience*, 2(3-4), 307-319.

Gilissen, Bakermans-Kranenburg, van Ijzendoorn, & Linting. (2008). Electrodermal reactivity during the trier social stress test for children: Interaction between the serotonin transporter polymorphism and children's attachment representation. *Developmental Psychobiology*, 50(6), 615-625.

Gilkerson, & Shahmoon-Shanok. (1999). Relationships for growth: Cultivating reflective practice in infant, toddler, and preschool programs. In Osofsky, J. D. & Fitzgerald, H. E. (Eds.), *Waimh handbook of infant mental health, vol. 2: Early intervention, evaluation, and assessment* (pp. 48-68). New York: John Wiley & Sons.

Gillath, Shaver, Mikulincer, Nitzberg, Erez, & van Ijzendoorn. (2005). Attachment, caregiving, and volunteering: Placing volunteerism in an attachment-theoretical framework. *Personal Relationships*, 12(4), 425-446.

Goldberg, Lojkasek, Gartner, & Corter. (1989). Maternal responsiveness and social development in preterm infants. *New Directions for Child Development*, 43, 89-103.

Gottwald, & Thurman. (1994). The effects of prenatal cocaine exposure on mother-infant interaction and infant arousal in the newborn period. *Topics in Early Childhood Special Education*, 14(2), 217-231.

- Green. (2001). From research to “best practices” in other settings and populations. . *American Journal of Health Behavior*, 25, 165-178.
- Green, & Goldwyn. (2002). Annotation: Attachment disorganization and psychopathology: New findings in attachment research and their potential implications for developmental psychopathology in childhood. *Journal of Child Psychology and Psychiatry*, 43(7), 835-846.
- Greenberg. (1999). Attachment and psychopathology in childhood. In Cassidy, J. & Shaver, P. R. (Eds.), *Handbook of attachment: Theory, research, and clinical applications*. (pp. 469-496). New York, NY: Guilford Press.
- Greenberg, DeKlyen, Speltz, & Endriga. (1997). The role of attachment processes in externalizing psychopathology in young children. In Atkinson, L. & Zucker, K. J. (Eds.), *Attachment and psychopathology*. (pp. 196-222): Guilford Press, New York, NY, US.
- Greenberg, & Watson. (1998). Experiential therapy of depression: Differential effects of client-centered relationship conditions and process experiential interventions. *Psychotherapy Research*, 8(2), 210-224.
- Greenberg, Watson, Elliot, & Bohart. (2001). Empathy. *Psychotherapy: Theory, Research, Practice, Training*, 38(4), 380-384.
- Greenson. (1965). The working alliance and the transference neurosis. *Psychoanalytic Quarterly*, 34(2), 155-179.
- Greenspan. (1982). Developmental morbidity in infants in multi-risk-factor families: Clinical perspectives. *Public Health Reports*, 97(1), 16-23.
- Greenspan, & Wieder. (1984). Dimensions and levels of the therapeutic process. *Psychotherapy: Theory, Research, Practice, Training*, 21(1), 5-23.

- Grossmann, Grossmann, & Waters. (2005). *Attachment from infancy to adulthood: The major longitudinal studies*. New York, NY: Guilford Publications.
- Gullone, Ollendick, & King. (2006). The role of attachment representation in the relationship between depressive symptomatology and social withdrawal in middle childhood. *Journal of Child and Family Studies, 15*(3), 271-285.
- Hanson, Curry, & Bandalos. (2002). Reliability generalization of working alliance inventory scale scores. *Educational and Psychological Measurement, 62*(4), 659-673.
- Harding, Galano, Martin, Huntington, & Schellenbach. (2007). Healthy families America® effectiveness: A comprehensive review of outcomes. *Journal of Prevention & Intervention in the Community, 34*(1), 149-179.
- Hatcher, & Gillaspay. (2006). Development and validation of a revised short version of the working alliance inventory. *Psychotherapy Research, 16*(1), 12-25.
- Hawley, & Weisz. (2005). Youth versus parent working alliance in usual clinical care: Distinctive associations with retention, satisfaction, and treatment outcome. *Journal of Clinical Child and Adolescent Psychology, 34*(1), 117-128.
- Heaman, Chalmers, Woodgate, & Brown. (2006). Early childhood home visiting programs: Factors contributing to success. *Journal of Advanced Nursing, 55*(3), 291-300.
- Heinicke, Goorsky, Moscov, Dudley, Gordon, Schneider, et al. (2000). Relationship-based intervention with at-risk mothers: Factors affecting variations in outcome. *Infant Mental Health Journal, 21*(3), 133-155.
- Hembree-Kigin, & McNeil. (1995). *Parent-child interaction therapy*: Plenum Press, New York, NY, US.

Heppner, Kivlighan, & Wampold. (1992). *Research design in counseling*. Belmont, CA, US: Thomson Brooks/Cole Publishing Co.

Hertsgaard, Gunnar, Erickson, & Nachmias. (1995). Adrenocortical responses to the strange situation in infants with disorganized/disoriented attachment relationships. *Child Development, 66*(4), 1100-1106.

Higley, & Dozier. (2009). Nighttime maternal responsiveness and infant attachment at one year. *Attachment & Human Development, 11*(4), 347-363.

Hobson, Patrick, Crandell, Garcia-Perez, & Lee. (2005). Personal relatedness and attachment in infants of mothers with borderline personality disorder. *Development and Psychopathology, 17*(2), 329-347.

Holland, Moretti, Verlaan, & Peterson. (1993). Attachment and conduct disorder: The response program. *The Canadian Journal of Psychiatry / La Revue canadienne de psychiatrie, 38*(6), 420-431.

Holmbeck. (1997). Toward terminological, conceptual, and statistical clarity in the study of mediators and moderators: Examples from the child-clinical and pediatric psychology literatures. *Journal of Consulting and Clinical Psychology, 65*(4), 599-610.

Holtzworth-Munroe, Stuart, & Hutchinson. (1997). Violent versus nonviolent husbands: Differences in attachment patterns, dependency, and jealousy. *Journal of Family Psychology, 11*(3), 314-331.

Hood, & Eyberg. (2003). Outcomes of parent-child interaction therapy: Mothers' reports of maintenance three to six years after treatment. *Journal of Clinical Child and Adolescent Psychology, 32*(3), 419-429.

- Horvath, & Bedi. (2002). The alliance. In Norcross, J. C. (Ed.), *Psychotherapy relationships that work: Therapist contributions and responsiveness to patients*. (pp. 37-69). New York, NY: Oxford University Press.
- Horvath, & Greenberg. (1986). The development of the working alliance inventory. In Greenberg, L. S. & Pinsof, W. M. (Eds.), *The psychotherapeutic process: A research handbook* (pp. 529-556). New York, NY: Guilford Press.
- Horvath, & Greenberg. (1989). Development and validation of the working alliance inventory. *Journal of Counseling Psychology, 36*(2), 223-233.
- Horvath, & Symonds. (1991). Relation between working alliance and outcome in psychotherapy: A meta-analysis. *Journal of Counseling Psychology, 38*(2), 139-149.
- Howard, Turner, Olkin, & Mohr. (2006). Therapeutic alliance mediates the relationship between interpersonal problems and depression outcome in a cohort of multiple sclerosis patients. *Journal of Clinical Psychology, 62*(9), 1197-1204.
- Huth-Bocks, Levendosky, Bogat, & von Eye. (2004a). The impact of maternal characteristics and contextual variables on infant-mother attachment. *Child Development, 75*(2), 480-496.
- Huth-Bocks, Levendosky, Theran, & Bogat. (2004b). The impact of domestic violence on mothers' prenatal representations of their infants. *Infant Mental Health Journal, 25*(2), 79-98.
- Inoff-Germain, Nottelmann, & Radke-Yarrow. (1992). Evaluative communications between affectively ill and well mothers and their children. *Journal of Abnormal Child Psychology, 20*(2), 189-212.

- Isabella. (1993). Origins of attachment: Maternal interactive behavior across the first year. *Child Development, 64*(2), 605-621.
- Jacobsen, Huss, Fendrich, Kruesi, & Ziegenhain. (1997). Children's ability to delay gratification: Longitudinal relations to mother-child attachment. *Journal of Genetic Psychology, 158*(4), 411-426.
- Johnson, Dweck, & Chen. (2007). Evidence for infants' internal working models of attachment. *Psychological Science, 18*(6), 501-502.
- Joyce, Ogrodniczuk, Piper, & McCallum. (2003). The alliance as mediator of expectancy effects in short-term individual therapy. *Journal of Consulting and Clinical Psychology, 71*(4), 672-679.
- Kalinauskiene, Cekuoliene, van Ijzendoorn, Bakermans-Kranenburg, Juffer, & Kusakovskaja. (2009). Supporting insensitive mothers: The vilnius randomized control trial of video-feedback intervention to promote maternal sensitivity and infant attachment security. *Child Care, Health & Development, 35*(5), 613-623.
- Karver, Handelsman, Fields, & Bickman. (2006). Meta-analysis of therapeutic relationship variables in youth and family therapy: The evidence for different relationship variables in the child and adolescent treatment outcome literature. *Clinical Psychology Review, 26*(1), 50-65.
- Kazdin, Holland, & Crowley. (1997). Family experience of barriers to treatment and premature termination from child therapy. *Journal of Consulting and Clinical Psychology, 65*(3), 453-463.

- Kazdin, Marciano, & Whitley. (2005). The therapeutic alliance in cognitive-behavioral treatment of children referred for oppositional, aggressive, and antisocial behavior. *Journal of Consulting and Clinical Psychology, 73*(4), 726-730.
- Kazdin, Siegel, & Bass. (1990). Drawing on clinical practice to inform research on child and adolescent psychotherapy: Survey of practitioners. *Professional Psychology: Research and Practice, 21*(3), 189-198.
- Kazdin, & Wassell. (1999). Barriers to treatment participation and therapeutic change among children referred for conduct disorder. *Journal of Clinical Child Psychology, 28*(2), 160-172.
- Kazdin, & Whitley. (2003). Treatment of parental stress to enhance therapeutic change among children referred for aggressive and antisocial behavior. *Journal of Consulting and Clinical Psychology, 71*(3), 504-515.
- Kazdin, & Whitley. (2006). Pretreatment social relations, therapeutic alliance, and improvements in parenting practices in parent management training. *Journal of Consulting and Clinical Psychology, 74*(2), 346-355.
- Kazdin, Whitley, & Marciano. (2006). Child-therapist and parent-therapist alliance and therapeutic change in the treatment of children referred for oppositional, aggressive, and antisocial behavior. *Journal of Child Psychology and Psychiatry, 47*(5), 436-445.
- Kehle, Bray, & Grigerick. (2008). "Infant and child attachment as it relates to school-based outcomes": Erratum. *Journal of Early Childhood and Infant Psychology, 4*, 124.
- Keller, Spieker, & Gilchrist. (2005). Patterns of risk and trajectories of preschool problem behaviors: A person-oriented analysis of attachment in context. *Development and Psychopathology, 17*(2), 349-384.

- Kelley, & Jennings. (2003). Putting the pieces together: Maternal depression, maternal behavior, and toddler helplessness. *Infant Mental Health Journal, 24*(1), 74-90.
- Kendall, & Choudhury. (2003). Children and adolescents in cognitive-behavioral therapy: Some past efforts and current advances, and the challenges in our future. *Cognitive Therapy and Research, 27*(1), 89-104.
- Kennedy. (2008). Is maternal behavior in the strange situation related to infant attachment? *Journal of Early Childhood and Infant Psychology, 4*, 83-92.
- Kerns, Tomich, & Kim. (2006). Normative trends in children's perceptions of availability and utilization of attachment figures in middle childhood. *Social Development, 15*(1), 1-22.
- Kim, & Cicchetti. (2010). Longitudinal pathways linking child maltreatment, emotion regulation, peer relations, and psychopathology. *Journal of Child Psychology and Psychiatry, 51*(6), 706-716.
- Kim, Wampold, & Bolt. (2006). Therapist effects in psychotherapy: A random-effects modeling of the national institute of mental health treatment of depression collaborative research program data. *Psychotherapy Research, 16*(2), 161-172.
- Klein, Kolden, Michels, & Chisolm-Stockard. (2002). Congruence. In Norcross, J. C. (Ed.), *Psychotherapy relationships that work: Therapist contributions and responsiveness to patients*. (pp. 195-215). New York, NY: Oxford University Press.
- Kochanska, Barry, Stellern, & O'Bleness. (2009). Early attachment organization moderates the parent-child mutually coercive pathway to children's antisocial conduct. *Child Development, 80*(4), 1288-1300.

- Koren-Karie, Oppenheim, Dolev, Sher, & Etzion-Carasso. (2002). Mother's insightfulness regarding their infants' internal experience: Relations with maternal sensitivity and infant attachment. *Developmental Psychology, 38*(4), 534-542.
- Korfmacher, Green, Spellmann, & Thornburg. (2007). The helping relationship and program participation in early childhood home visiting. *Infant Mental Health Journal, 28*(5), 459-480.
- Korfmacher, Kitzman, & Olds. (1998). Intervention processes as predictors of outcomes in a preventive home-visitation program. *Journal of Community Psychology, 26*(1), 49-64.
- Korfmacher, & Marchi. (2002). The helping relationship in a teen parenting program. . *Zero To Three, 23*(2), 21-26.
- Korja, Ahlqvist-Bjrkroth, Savonlahti, Stolt, Haataja, Lapinleimu, et al. (2010). Relations between maternal attachment representations and the quality of mother-infant interaction in preterm and full-term infants. *Infant Behavior & Development, 33*(3), 330-336.
- Kostecky. (2005). Parental attachment, academic achievement, life events and their relationship to alcohol and drug use during adolescence. *Journal of Adolescence, 28*(5), 665-669.
- Kryzik, & LeCroy. (2007). The evaluation of Healthy Families Arizona: A multisite home visitation program. *Journal of Prevention & Intervention in the Community, 34*(1-2), 109-127.
- Laranjo, Bernier, & Meins. (2008). Associations between maternal mind-mindedness and infant attachment security: Investigating the mediating role of maternal sensitivity. *Infant Behavior & Development, 31*(4), 688-695.

- Lemche, Klann-Delius, Koch, & Joraschky. (2004). Mentalizing language development in a longitudinal attachment sample: Implications for alexithymia. *Psychotherapy and Psychosomatics*, 73(6), 366-374.
- Lemche, Kreppner, Joraschky, & Klann-Delius. (2007). Attachment organization and the early development of internal state language: A longitudinal perspective. *International Journal of Behavioral Development*, 31(3), 252-262.
- Lewis. (1993). Early socioemotional predictors of cognitive competency at 4 years. *Developmental Psychology*, 29(6), 1036-1045.
- Liberman, Van Horn, & Ippen. (2005). Toward evidence-based treatment: Child-parent psychotherapy with preschoolers exposed to marital violence. *Journal of the American Academy of Child & Adolescent Psychiatry*, 44(12), 1241-1248.
- Lieberman. (1991). Attachment theory and infant-parent psychotherapy: Some conceptual, clinical and research considerations. In *Rochester symposium on developmental psychopathology, vol. 3: Models and integrations*. (pp. 261-287): University of Rochester Press, Rochester, NY, US.
- Lieberman. (2004). Infant parent psychotherapy. In Sameroff, A., McDonough, S. & Rosenblum, K. (Eds.), *Treating parent-infant relationship problems*. New York: Guilford Press.
- Lieberman, Compton, Van Horn, & Ippen. (2003). *Losing a parent to death in the early years: Guidelines for the treatment of traumatic bereavement in infancy and early childhood: ZERO TO THREE/National Center for Infants, Toddlers and Families*, Washington, DC, US.

- Lieberman, Ippen, & Van Horn. (2006). Child-parent psychotherapy: 6-month follow-up of a randomized controlled trial. *Journal of the American Academy of Child & Adolescent Psychiatry, 45*(8), 913-918.
- Lieberman, & Pawl. (1993). Infant-parent psychotherapy. In Zeanah, C. H., Jr. (Ed.), *Handbook of infant mental health*. (pp. 427-442). New York, NY: Guilford Press.
- Lieberman, & Van Horn. (2008). *Psychotherapy with infants and young children: Repairing the effects of stress and trauma on early attachment*. Guilford Press, New York, NY, US.
- Lindsey, Caldera, & Tankersley. (2009). Marital conflict and the quality of young children's peer play behavior: The mediating and moderating role of parent-child emotional reciprocity and attachment security. *Journal of Family Psychology, 23*(2), 130-145.
- Long. (2009). Disorganized attachment relationships in infants of adolescent mothers and factors that may augment positive outcomes. *Adolescence, 44*(175), 621-633.
- Lovejoy, Graczyk, O'Hare, & Neuman. (2000). Maternal depression and parenting behavior: A meta-analytic review. *Clinical Psychology Review, 20*(5), 561-592.
- Luborsky. (1976). Helping alliances in psychotherapy. In Cleghorn, J. L. (Ed.), *Successful psychotherapy* (pp. 92-116). New York: Brunner/Mazel.
- Luborsky, Rosenthal, Diguer, Andrusyna, Berman, Levitt, et al. (2002). The dodo bird verdict is alive and well--mostly. *Clinical Psychology: Science and Practice, 9*(1), 2-12.
- Luborsky, Singer, & Luborsky. (1975). Comparative studies of psychotherapies: Is it true that "Everyone has won and all must have prizes"? *Archives of General Psychiatry, 32*(8), 995-1008.

- Lucas-Thompson, & Clarke-Stewart. (2007). Forecasting friendship: How marital quality, maternal mood, and attachment security are linked to children's peer relationships. *Journal of Applied Developmental Psychology, 28*(5-6), 499-514.
- Luthar, & Suchman. (2000). Relational psychotherapy mothers' group: A developmentally informed intervention for at-risk mothers. *Development and Psychopathology, 12*(2), 235-253.
- Lutkenhaus, Grossmann, & Grossmann. (1985). Transactional influences of infants' orienting ability and maternal cooperation on competition in three-year-old children. *International Journal of Behavioral Development, 8*(3), 257-272.
- Lyons-Ruth, Alpern, & Repacholi. (1993). Disorganized infant attachment classification and maternal psychosocial problems as predictors of hostile-aggressive behavior in the preschool classroom. *Child Development, 64*(2), 572-585.
- Lyons-Ruth, & Block. (1996). The disturbed caregiving system: Relations among childhood trauma, maternal caregiving, and infant affect and attachment. *Infant Mental Health Journal, 17*(3), 257-275.
- Lyons-Ruth, Bronfman, & Parsons. (1999). Maternal frightened, frightening, or atypical behavior and disorganized infant attachment patterns. *Monographs of the Society for Research in Child Development, 64*(3), 67-96.
- Lyons-Ruth, Bureau, Riley, & Atlas-Corbett. (2009). Socially indiscriminate attachment behavior in the strange situation: Convergent and discriminant validity in relation to caregiving risk, later behavior problems, and attachment insecurity. *Development and Psychopathology, 21*(2), 355-372.

- Lyons-Ruth, Connell, Grunebaum, & Botein. (1990). Infants at social risk: Maternal depression and family support services as mediators of infant development and security of attachment. *Child Development, 61*(1), 85-98.
- Lyons-Ruth, Connell, & Zoll. (1989). Patterns of maternal behavior among infants at risk for abuse: Relations with infant attachment behavior and infant development at 12 months of age. In Cicchetti, D. & Carlson, V. (Eds.), *Child maltreatment: Theory and research on the causes and consequences of child abuse and neglect*. (pp. 464-493). New York, NY: Cambridge University Press.
- Lyons-Ruth, Connell, Zoll, & Stahl. (1987). Infants at social risk: Relations among infant maltreatment, maternal behavior, and infant attachment behavior. *Developmental Psychology, 23*(2), 223-232.
- Lyons-Ruth, Dutra, Schuder, & Bianchi. (2006). From infant attachment disorganization to adult dissociation: Relational adaptations or traumatic experiences? *Psychiatric Clinics of North America, 29*(1), 63-86.
- Lyons-Ruth, & Jacobvitz. (1999). Attachment disorganization: Unresolved loss, relational violence, and lapses in behavioral and attentional strategies. In Cassidy, J. & Shaver, P. R. (Eds.), *Handbook of attachment: Theory, research, and clinical applications*. (pp. 520-554). New York, NY: Guilford Press.
- Lyons-Ruth, Repacholi, McLeod, & Silva. (1991). Disorganized attachment behavior in infancy: Short-term stability, maternal and infant correlates, and risk-related subtypes. *Development and Psychopathology, 3*(4), 377-396.
- MacKinnon, & Fairchild. (2009). Current directions in mediation analysis. *Current Directions in Psychological Science, 18*(1), 16-20.

- MacKinnon, Lockwood, & Williams. (2004). Confidence limits for the indirect effect: Distribution of the product and resampling methods. *Multivariate Behavioral Research*, 39(1), 99-128.
- Mackrain, LeBuffe, & Powell. (2007). *Devereux early childhood assessment for infants and toddlers - technical manual*. Lewisville, KY: Kaplan.
- Madigan, Bakermans-Kranenburg, van Ijzendoorn, Moran, Pederson, & Benoit. (2006). Unresolved states of mind, anomalous parental behavior, and disorganized attachment: A review and meta-analysis of a transmission gap. *Attachment & Human Development*, 8(2), 89-111.
- Main, & Hesse. (1990). Parents' unresolved traumatic experiences are related to infant disorganized attachment status: Is frightened and/or frightening parental behavior the linking mechanism? In Greenberg, M. T., Cicchetti, D. & Cummings, E. M. (Eds.), *Attachment in the preschool years: Theory, research, and intervention*. (pp. 161-182). Chicago, IL: University of Chicago Press.
- Main, & Solomon. (1986). Discovery of an insecure-disorganized/disoriented attachment pattern. In Brazelton, T. B. & Yogman, M. W. (Eds.), *Affective development in infancy* (pp. 95-124). Westport, CT: Ablex Publishing.
- Mallinckrodt. (1996). Change in working alliance, social support, and psychological symptoms in brief therapy. *Journal of Counseling Psychology*, 43(4), 448-455.
- Mallinckrodt, Coble, & Gantt. (1995). Working alliance, attachment memories, and social competencies of women in brief therapy. *Journal of Counseling Psychology*, 42(1), 79-84.

- Martin, Garske, & Davis. (2000). Relation of the therapeutic alliance with outcome and other variables: A meta-analytic review. *Journal of Consulting and Clinical Psychology, 68*(3), 438-450.
- Marvin, Cooper, Hoffman, & Powell. (2002). The circle of security project: Attachment-based intervention with caregiver-pre-school child dyads. *Attachment & Human Development, 4*(1), 107-124.
- Matas, Arend, & Sroufe. (1978). Continuity of adaptation in the second year: The relationship between quality of attachment and later competence. *Child Development, 49*(3), 547-556.
- Matos, Torres, Santiago, Jurado, & Rodriguez. (2006). Adaptation of parent-child interaction therapy for puerto rican families: A preliminary study. *Family Process, 45*(2), 205-222.
- Mayes, Feldman, Granger, Haynes, Bornstein, & Schottenfeld. (1997). The effects of polydrug use with and without cocaine on mother-infant interaction at 3 and 6 months. *Infant Behavior & Development, 20*(4), 489-502.
- McCabe, Yeh, Garland, Lau, & Chavez. (2005). The gana program: A tailoring approach to adapting parent child interaction therapy for Mexican Americans. *Education & Treatment of Children, 28*(2), 111-129.
- McCartney, Owen, Booth, Clarke-Stewart, & Vandell. (2004). Testing a maternal attachment model of behavior problems in early childhood. *Journal of Child Psychology and Psychiatry, 45*(4), 765-778.
- McDonough. (1993). Interaction guidance: Understanding and treating early infant-caregiver relationship disturbances. In Zeanah, C. H., Jr. (Ed.), *Handbook of infant mental health*. (pp. 414-426). New York, NY: Guilford Press.

- McElwain, & Volling. (2004). Attachment security and parental sensitivity during infancy: Associations with friendship quality and false-belief understanding at age 4. *Journal of Social and Personal Relationships, 21*(5), 639-667.
- McLeod, & Weisz. (2005). The therapy process observational coding system-alliance scale: Measure characteristics and prediction of outcome in usual clinical practice. *Journal of Consulting and Clinical Psychology, 73*(2), 323-333.
- McNeil, Capage, & Bennett. (2002). Cultural issues in the treatment of young African American children diagnosed with disruptive behavior disorders. *Journal of Pediatric Psychology, 27*(4), 339-350.
- McQuaid, Bigelow, McLaughlin, & MacLean. (2008). Maternal mental state language and preschool children's attachment security: Relation to children's mental state language and expressions of emotional understanding. *Social Development, 17*(1), 61-83.
- Meier, Donmall, McElduff, Barrowclough, & Heller. (2006). The role of the early therapeutic alliance in predicting drug treatment dropout. *Drug and Alcohol Dependence, 83*(1), 57-64.
- Meins, & Fernyhough. (1999). Linguistic acquisitional style and mentalising development: The role of maternal mind-mindedness. *Cognitive Development, 14*(3), 363-380.
- Meins, Fernyhough, Fradley, & Tuckey. (2001). Rethinking maternal sensitivity: Mothers' comments on infants' mental processes predict security of attachment at 12 months. *Journal of Child Psychology and Psychiatry, 42*(5), 637-648.
- Meins, Fernyhough, Russell, & Clark-Carter. (1998). Security of attachment as a predictor of symbolic and mentalising abilities: A longitudinal study. *Social Development, 7*(1), 1-24.

- Meins, Fernyhough, Wainwright, Clark-Carter, Gupta, Fradley, et al. (2003). Pathways to understanding mind: Construct validity and predictive validity of maternal mind-mindedness. *Child Development, 74*(4), 1194-1211.
- Meyer, Pilkonis, Krupnick, Egan, Simmens, & Sotsky. (2002). Treatment expectancies, patient alliance and outcome: Further analyses from the national institute of mental health treatment of depression collaborative research program. *Journal of Consulting and Clinical Psychology, 70*(4), 1051-1055.
- Mikulincer, Gillath, Halevy, Avihou, Avidan, & Eshkoli. (2001). Attachment theory and reactions to others' needs: Evidence that activation of the sense of attachment security promotes empathic responses. *Journal of Personality and Social Psychology, 81*(6), 1205-1224.
- Mikulincer, Gillath, Sapir-Lavid, Yaakobi, Arias, Tal-Aloni, et al. (2003). Attachment theory and concern for others' welfare: Evidence that activation of the sense of secure base promotes endorsement of self-transcendence values. *Basic and Applied Social Psychology, 25*(4), 299-312.
- Mikulincer, & Shaver. (2007). Boosting attachment security to promote mental health, prosocial values, and inter-group tolerance. *Psychological Inquiry, 18*(3), 139-156.
- Mikulincer, Shaver, Gillath, & Nitzberg. (2005). Attachment, caregiving, and altruism: Boosting attachment security increases compassion and helping. *Journal of Personality and Social Psychology, 89*(5), 817-839.
- Mikulincer, Shaver, & Horesh. (2006). Attachment bases of emotion regulation and posttraumatic adjustment. In *Emotion regulation in couples and families: Pathways to dysfunction and health*. (pp. 77-99): American Psychological Association, Washington, DC, US.

- Miller, Jennings, Alvarez-Rivera, & Lanza-Kaduce. (2009). Self-control, attachment, and deviance among Hispanic adolescents. *Journal of Criminal Justice, 37*(1), 77-84.
- Minagawa-Kawai, Matsuoka, Dan, Naoi, Nakamura, & Kojima. (2009). Prefrontal activation associated with social attachment: Facial-emotion recognition in mothers and infants. *Cerebral Cortex, 19*(2), 284-292.
- Moran, Forbes, Evans, Tarabulsky, & Madigan. (2008). Both maternal sensitivity and atypical maternal behavior independently predict attachment security and disorganization in adolescent mother-infant relationships. *Infant Behavior & Development, 31*(2), 321-325.
- Moss, Bureau, Bliveau, Zdebik, & Lpine. (2009). Links between children's attachment behavior at early school-age, their attachment-related representations, and behavior problems in middle childhood. *International Journal of Behavioral Development, 33*(2), 155-166.
- Moss, Smolla, Cyr, Dubois-Comtois, Mazzarello, & Berthiaume. (2006). Attachment and behavior problems in middle childhood as reported by adult and child informants. *Development and Psychopathology, 18*(2), 425-444.
- Moss, St-Laurent, & Parent. (1999). Disorganized attachment and developmental risk at school age. In Solomon, J. & George, C. (Eds.), *Attachment disorganization* (pp. 160-186). New York, NY: Guilford Press.
- Muir. (1992). Watching, waiting, and wondering: Applying psychoanalytic principles to mother-infant intervention. *Infant Mental Health Journal, 13*(4), 319-328.
- Muscetta, Bovet, Candelori, Mancone, & Speranza. (1999). Funzione riflessiva materna e stile di attaccamento nei bambini. *Psicologia Clinica dello Sviluppo, 3*(1), 109-128.
- Naglieri, LeBuffe, & Pfeiffer. (1994). *Devereux scales of mental disorders manual*. San Antonio, TX: The Psychological Corporation.

- Nardi. (1994). Parent-infant interaction during perinatal addiction treatment. *Issues in Comprehensive Pediatric Nursing, 17*(3), 161-175.
- Niederhofer. (2009). Attachment as a component of attention-deficit hyperactivity disorder. *Psychological Reports, 104*(2), 645-648.
- Nievar, & Becker. (2008). Sensitivity as a privileged predictor of attachment: A second perspective on de wolff and van ijzendoorn's meta-analysis. *Social Development, 17*(1), 102-114.
- Nixon. (2001). Changes in hyperactivity and temperament in behaviourally disturbed preschoolers after parent-child interaction therapy (pcit). *Behaviour Change, 18*(3), 168-176.
- Nixon, Sweeney, Erickson, & Touyz. (2004). Parent-child interaction therapy: One- and two-year follow-up of standard and abbreviated treatments for oppositional preschoolers. *Journal of Abnormal Child Psychology, 32*(3), 263-271.
- Norcross (Ed.). (2002). *Psychotherapy relationships that work: Therapist contributions and responsiveness to patients*. New York, NY: Oxford University Press.
- O'Connor, & McCartney. (2007). Attachment and cognitive skills: An investigation of mediating mechanisms. *Journal of Applied Developmental Psychology, 28*(5-6), 458-476.
- O'Connor, Sigman, & Brill. (1987). Disorganization of attachment in relation to maternal alcohol consumption. *Journal of Consulting and Clinical Psychology, 55*(6), 831-836.
- Ogawa, Sroufe, Weinfield, Carlson, & Egeland. (1997). Development and the fragmented self: Longitudinal study of dissociative symptomatology in a nonclinical sample. *Development and Psychopathology, 9*(4), 855-879.

- Oosterman, De Schipper, Fisher, Dozier, & Schuengel. (2010). Autonomic reactivity in relation to attachment and early adversity among foster children. *Development and Psychopathology*, 22(1), 109-118.
- Orlinsky, Grawe, & Parks. (1994). Process and outcome in psychotherapy: Noch einmal. In Bergin, A. E. & Garfield, S. L. (Eds.), *Handbook of psychotherapy and behavior change (4th ed.)*. (pp. 270-376). Oxford, England: John Wiley & Sons.
- Paley, Cox, Burchinal, & Payne. (1999). Attachment and marital functioning: Comparison of spouses with continuous-secure, earned-secure, dismissing, and preoccupied attachment stances. *Journal of Family Psychology*, 13(4), 580-597.
- Pauli-Pott, Haverkock, Pott, & Beckmann. (2007). Negative emotionality, attachment quality, and behavior problems in early childhood. *Infant Mental Health Journal*, 28(1), 39-53.
- Pawl. (1995). On supervision. *Zero to Three*, 15(3), 21-29.
- Pawl, & St. John. (1998). *How you are is as important as what you do*. Washington DC: Zero-to-Three.
- Perry. (2002). Childhood experience and the expression of genetic potential: What childhood neglect tells us about nature and nurture. *Brain & Mind*, 3(1), 79-100.
- Perry, & Pollard. (1998). Homeostasis, stress, trauma, and adaptation: A neurodevelopmental view of childhood trauma. *Child and Adolescent Psychiatric Clinics of North America*, 7(1), 33-51.
- Petry, & Bickel. (1999). Therapeutic alliance and psychiatric severity as predictors of completion of treatment for opioid dependence. *Psychiatric Services*, 50(2), 219-227.

- Pharis, & Levin. (1991). "A person to talk to who really cared": High-risk mothers' evaluations of services in an intensive intervention research program. *Child Welfare: Journal of Policy, Practice, and Program*, 70(3), 307-320.
- Pianta, & Egeland. (1990). Life stress and parenting outcomes in a disadvantaged sample: Results of the mother-child interaction project. *Journal of Clinical Child Psychology*, 19(4), 329-336.
- Pierrehumbert, Miljkovitch, Plancherel, Halfon, & Ansermet. (2000). Attachment and temperament in early childhood; implications for later behavior problems. *Infant and Child Development*, 9(1), 17-32.
- Pos, Greenberg, Goldman, & Korman. (2003). Emotional processing during experiential treatment of depression. *Journal of Consulting and Clinical Psychology*, 71(6), 1007-1016.
- Posada, Waters, Crowell, & Lay. (1995). Is it easier to use a secure mother as a secure base? Attachment q-sort correlates of the adult attachment interview. *Monographs of the Society for Research in Child Development*, 60(2-3), 133-145.
- Preacher, & Hayes. (2004). Spss and sas procedures for estimating indirect effects in simple mediation models. *Behavior Research Methods, Instruments, & Computers*, 36(4), 717-731.
- Quinlivan, & Evans. (2005). Impact of domestic violence and drug abuse in pregnancy on maternal attachment and infant temperament in teenage mothers in the setting of best clinical practice. *Archives of Women's Mental Health*, 8(3), 191-199.

- Radke-Yarrow, Nottelmann, Belmont, & Welsh. (1993a). Affective interactions of depressed and nondepressed mothers and their children. *Journal of Abnormal Child Psychology*, 21(6), 683-695.
- Radke-Yarrow, Nottelmann, Martinez, Fox, & et al. (1993b). Young children of affectively ill parents: A longitudinal study of psychosocial development. *Annual Progress in Child Psychiatry & Child Development*, 191-212.
- Raikes, & Thompson. (2006). Family emotional climate, attachment security and young children's emotion knowledge in a high risk sample. *British Journal of Developmental Psychology*, 24(1), 89-104.
- Raikes, & Thompson. (2008). Attachment security and parenting quality predict children's problem-solving, attributions, and loneliness with peers. *Attachment & Human Development*, 10(3), 319-344.
- Raval, Goldberg, Atkinson, Benoit, Myhal, Poulton, et al. (2001). Maternal attachment, maternal responsiveness and infant attachment. *Infant Behavior & Development*, 24(3), 281-304.
- Raytek, McCrady, Epstein, & Hirshch. (1999). Therapeutic alliance and the retention of couples in conjoint alcoholism treatment. *Addictive Behaviors*, 24(3), 317-330.
- Reyno, & McGrath. (2006). Predictors of parent training efficacy for child externalizing behavior problem--a meta-analytic review. *Journal of Child Psychology and Psychiatry*, 47(1), 99-111.
- Ricks. (1985). The social transmission of parental behavior: Attachment across generations. *Monographs of the Society for Research in Child Development*, 50(1), 211-227.

- Robbins, Liddle, Turner, Dakof, Alexander, & Kogan. (2006). Adolescent and parent therapeutic alliances as predictors of dropout in multidimensional family therapy. *Journal of Family Psychology, 20*(1), 108-116.
- Robinson, Emde, & Korfmacher. (1997). Integrating an emotional regulation perspective in a program of prenatal and early childhood home visitation. *Journal of Community Psychology, 25*(1), 59-75.
- Rodning, Beckwith, & Howard. (1989). Characteristics of attachment organization and play organization in prenatally drug-exposed toddlers. *Development and Psychopathology, 1*(4), 277-289.
- Rodning, Beckwith, & Howard. (1991). Quality of attachment and home environments in children prenatally exposed to pcp and cocaine. *Development and Psychopathology, 3*(4), 351-366.
- Rogers. (1951). *Client-centered therapy*. Oxford, England: Houghton Mifflin.
- Rogers. (1957). The necessary and sufficient conditions of therapeutic personality change. *Journal of Consulting Psychology, 21*(2), 95-103.
- Roisman, & Fraley. (2008). A behavior-genetic study of parenting quality, infant attachment security, and their covariation in a nationally representative sample. *Developmental Psychology, 44*(3), 831-839.
- Ronnlund, & Karlsson. (2006). The relation between dimensions of attachment and internalizing or externalizing problems during adolescence. *Journal of Genetic Psychology, 167*(1), 47-63.

- Rydell, Bohlin, & Thorell. (2005). Representations of attachment to parents and shyness as predictors of children's relationships with teachers and peer competence in preschool. *Attachment & Human Development, 7*(2), 187-204.
- Safran, & Wallner. (1991). The relative predictive validity of two therapeutic alliance measures in cognitive therapy. *Psychological Assessment, 3*(2), 188-195.
- Sagi, van Ijzendoorn, Scharf, & Joels. (1997). Ecological constraints for intergenerational transmission of attachment. *International Journal of Behavioral Development, 20*(2), 287-299.
- Sameroff, Seifer, Zax, & Barocas. (1987). Early indicators of developmental risk: Rochester longitudinal study. *Schizophrenia Bulletin, 13*(3), 383-394.
- Santiago, Klein, Vivian, Arnow, Blalock, Kocsis, et al. (2005). The therapeutic alliance and cbasp-specific skill acquisition in the treatment of chronic depression. *Cognitive Therapy and Research, 29*(6), 803-817.
- Satterfield, & Lyddon. (1995). Client attachment and perceptions of the working alliance with counselor trainees. *Journal of Counseling Psychology, 42*(2), 187-189.
- Satterfield, & Lyddon. (1998). Client attachment and the working alliance. *Counselling Psychology Quarterly, 11*(4), 407-415.
- Schaefer, Coyne, & Lazarus. (1981). The health-related functions of social support. *Journal of Behavioral Medicine, 4*(4), 381-406.
- Scharfe, & Cole. (2006). Stability and change of attachment representations during emerging adulthood: An examination of mediators and moderators of change. *Personal Relationships, 13*(3), 363-374.

- Schechter, Coots, Zeanah, Davies, Coates, Trabka, et al. (2005). Maternal mental representations of the child in an inner-city clinical sample: Violence-related posttraumatic stress and reflective functioning. *Attachment & Human Development, 7*(3), 313-331.
- Schieche, & Spangler. (2005). Individual differences in biobehavioral organization during problem-solving in toddlers: The influence of maternal behavior, infant-mother attachment, and behavioral inhibition on the attachment-exploration balance. *Developmental Psychobiology, 46*(4), 293-306.
- Schore. (2003). *Affect regulation and the repair of the self*: W W Norton & Co, New York, NY, US.
- Schore, & Schore. (2008). Modern attachment theory: The central role of affect regulation in development and treatment. *Clinical Social Work Journal, 36*(1), 9-20.
- Schuhmann, Foote, Eyberg, Boggs, & Algina. (1998). Efficacy of parent-child interaction therapy: Interim report of a randomized trial with short-term maintenance. *Journal of Clinical Child Psychology, 27*(1), 34-45.
- Seifer, LaGasse, Lester, Bauer, Shankaran, Bada, et al. (2004). Attachment status in children prenatally exposed to cocaine and other substances. *Child Development, 75*(3), 850-868.
- Shamir-Essakow, Ungerer, & Rapee. (2005). Attachment, behavioral inhibition, and anxiety in preschool children. *Journal of Abnormal Child Psychology, 33*(2), 131-143.
- Shapiro, & Shapiro. (1982). Meta-analysis of comparative therapy outcome studies: A replication and refinement. *Psychological Bulletin, 92*(3), 581-604.
- Shaver, & Mikulincer. (2002). Attachment-related psychodynamics. *Attachment & Human Development, 4*(2), 133-161.

- Shaver, & Mikulincer. (2008). Augmenting the sense of security in romantic, leader-follower, therapeutic, and group relationships: A relational model of psychological change. In *Social relationships: Cognitive, affective, and motivational processes*. (pp. 55-73): Psychology Press, New York, NY, US.
- Shaw, Keenan, & Vondra. (1994). Developmental precursors of externalizing behavior: Ages 1 to 3. *Developmental Psychology*, 30(3), 355-364.
- Shaw, Owens, Vondra, & Keenan. (1996). Early risk factors and pathways in the development of early disruptive behavior problems. *Development and Psychopathology*, 8(4), 679-699.
- Shirk, & Karver. (2003). Prediction of treatment outcome from relationship variables in child and adolescent therapy: A meta-analytic review. *Journal of Consulting and Clinical Psychology*, 71(3), 452-464.
- Siegel. (1999). *The developing mind: Toward a neurobiology of interpersonal experience*. New York: The Guilford Press.
- Slade, Grienenberger, Bernbach, Levy, & Locker. (2005). Maternal reflective functioning, attachment, and the transmission gap: A preliminary study. *Attachment & Human Development*, 7(3), 283-298.
- Smith, Calkins, & Keane. (2006). The relation of maternal behavior and attachment security to toddlers' emotions and emotion regulation. *Research in Human Development*, 3(1), 21-31.
- Smith, & Glass. (1977). Meta-analysis of psychotherapy outcome studies. *American Psychologist*, 32(9), 752-760.
- Smith, & Glass. (1980). Meta-analysis of research on class size and its relationship to attitudes and instruction. *American Educational Research Journal*, 17(4), 419-433.

- Smith, Msetfi, & Golding. (2010). Client self rated adult attachment patterns and the therapeutic alliance: A systematic review. *Clinical Psychology Review, 30*(3), 326-337.
- Snyder, & Sickmund. (1999). *Juvenile offenders and victims: 1999 national report*. Washington, DC: Office of Juvenile Justice and Delinquency Prevention.
- Sobel. (1982). Asymptotic confidence intervals for indirect effects in structural equation models. In Leinhardt, S. (Ed.), *Sociological methodology* (pp. 290-312). San Francisco: : Jossey-Bass.
- Spangler, Johann, Ronai, & Zimmermann. (2009). Genetic and environmental influence on attachment disorganization. *Journal of Child Psychology and Psychiatry, 50*(8), 952-961.
- Spangler, & Schieche. (1994). Biobehavioral organization in one-year-olds: Quality of mother-infant attachment and immunological and adrenocortical regulation. *Psychologische Beitrage, 36*(1-2), 30-35.
- Spangler, Schieche, Ilg, Maier, & et al. (1994). Maternal sensitivity as an external organizer for biobehavioral regulation in infancy. *Developmental Psychobiology, 27*(7), 425-437.
- Spieker, & Booth. (1988). Maternal antecedents of attachment quality. In Belsky, J. & Nezworski, T. (Eds.), *Clinical implications of attachment* (pp. 95-135). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc
- Spieker, Solchany, DeKlyen, & Barnard. (1999). The story of mothers who are difficult to engage in prevention programs. In Osofsky, J. D. & Fitzgerald, H. E. (Eds.), *Waimh handbook of infant mental health, vol. 3: Parenting and child care* (pp. 171-208). New York: John Wiley & Sons.
- Spitz. (1965). *The first year of life: A psychoanalytic study of normal and deviant development of object relations*: International Universities Press, I, Oxford, England.

- Sroufe. (1991). Assessment of parent-adolescent relationships: Implications for adolescent development. *Journal of Family Psychology, 5*(1), 21-45.
- Sroufe, Carlson, Levy, & Egeland. (1999). Implications of attachment theory for developmental psychopathology. *Development and Psychopathology, 11*(1), 1-13.
- Sroufe, Carlson, & Shulman. (1993). Individuals in relationships: Development from infancy through adolescence. In Funder, D. C., Parke, R. D., Tomlinson-Keasey, C. & Widaman, K. (Eds.), *Studying lives through time: Personality and development*. (pp. 315-342). Washington, DC: American Psychological Association.
- Sroufe, Egeland, Carlson, & Collins. (2005). *The development of the person: The minnesota study of risk and adaptation from birth to adulthood*. New York, NY: Guilford Publications.
- Sroufe, Fox, & Pancake. (1983). Attachment and dependency in developmental perspective. *Child Development, 54*(6), 1615-1627.
- Steele, Steele, Croft, & Fonagy. (1999). Infant-mother attachment at one year predicts children's understanding of mixed emotions at six years. *Social Development, 8*(2), 161-178.
- Stern. (1988). *The interpersonal world of the infant: A view from psychoanalysis and developmental psychology*. New York, NY: Basic Books.
- Suess, Grossmann, & Sroufe. (1992). Effects of infant attachment to mother and father on quality of adaptation in preschool: From dyadic to individual organisation of self. *International Journal of Behavioral Development, 15*(1), 43-65.
- Susman-Stillman, Kalkose, Egeland, & Waldman. (1996). Infant temperament and maternal sensitivity as predictors of attachment security. *Infant Behavior & Development, 19*(1), 33-47.

- Symons, & Clark. (2000). A longitudinal study of mother-child relationships and theory of mind in the preschool period. *Social Development, 9*(1), 3-23.
- Szewczyk-Sokolowski, Bost, & Wainwright. (2005). Attachment, temperament, and preschool children's peer acceptance. *Social Development, 14*(3), 379-397.
- Tarabulsky, Bernier, Provost, Maranda, Larose, Moss, et al. (2005). Another look inside the gap: Ecological contributions to the transmission of attachment in a sample of adolescent mother-infant dyads. *Developmental Psychology, 41*(1), 212-224.
- Taubman - Ben-Ari, & Mikulincer. (2007). The effects of dispositional attachment orientations and contextual priming of attachment security on reckless driving. *Transportation Research Part F: Traffic Psychology and Behaviour, 10*(2), 123-138.
- Thomas, & Zimmer-Gembeck. (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*(3), 475-495.
- Thompson, Flood, & Goodvin. (2006). Social support and developmental psychopathology. In Cicchetti, D. & Cohen, D. J. (Eds.), *Developmental psychopathology, vol 3: Risk, disorder, and adaptation (2nd ed.)*. (pp. 1-37). Hoboken, NJ: John Wiley & Sons Inc.
- Tichenor, & Hill. (1989). A comparison of six measures of working alliance. *Psychotherapy: Theory, Research, Practice, Training, 26*(2), 195-199.
- Timmer, Urquiza, & Zebell. (2006). Challenging foster caregiver-maltreated child relationships: The effectiveness of parent-child interaction therapy. *Children and Youth Services Review, 28*(1), 1-19.

- Toth, Maughan, Manly, Spagnola, & Cicchetti. (2002). The relative efficacy of two interventions in altering maltreated preschool children's representational models: Implications for attachment theory. *Development and Psychopathology, 14*(4), 877-908.
- Toth, Rogosch, Manly, & Cicchetti. (2006). The efficacy of toddler-parent psychotherapy to reorganize attachment in the young offspring of mothers with major depressive disorder: A randomized preventive trial. *Journal of Consulting and Clinical Psychology, 74*(6), 1006-1016.
- Toth, Rogosch, Sturge-Apple, & Cicchetti. (2009). Maternal depression, children's attachment security, and representational development: An organizational perspective. *Child Development, 80*(1), 192-208.
- Tracey, Glidden, & Kokotovic. (1988). Factor structure of the counselor rating form--short. *Journal of Counseling Psychology, 35*(3), 330-335.
- Tracey, & Kokotovic. (1989). Factor structure of the working alliance inventory. *Psychological Assessment, 1*(3), 207-210.
- Troy, & Sroufe. (1987). Victimization among preschoolers: Role of attachment relationship history. *Journal of the American Academy of Child & Adolescent Psychiatry, 26*(2), 166-172.
- Tryon, & Winograd. (2002). Goal consensus and collaboration. In Norcross, J. C. (Ed.), *Psychotherapy relationships that work: Therapist contributions and responsiveness to patients*. (pp. 109-125). New York, NY: Oxford University Press.
- van den Boom. (1995). Do first-year intervention effects endure? Follow-up during toddlerhood of a sample of dutch irritable infants. *Child Development, 66*(6), 1798-1816.

- van Ijzendoorn. (1995). Adult attachment representations, parental responsiveness, and infant attachment: A meta-analysis on the predictive validity of the adult attachment interview. *Psychological Bulletin, 117*(3), 387-403.
- van Ijzendoorn, & Bakermans-Kranenburg. (1996). Attachment representations in mothers, fathers, adolescents, and clinical groups: A meta-analytic search for normative data. *Journal of Consulting and Clinical Psychology, 64*(1), 8-21.
- van Ijzendoorn, & Bakermans-Kranenburg. (1997). Intergenerational transmission of attachment: A move to the contextual level. In Atkinson, L. & Zucker, K. J. (Eds.), *Attachment and psychopathology* (pp. 135-170). New York, NY: Guilford Press.
- van Ijzendoorn, & Bakermans-Kranenburg. (2006). Drd47-repeat polymorphism moderates the association between maternal unresolved loss or trauma and infant disorganization. *Attachment & Human Development, 8*(4), 291-307.
- van Ijzendoorn, Bakermans-Kranenburg, & Juffer. (2005). Why less is more: From the dodo bird verdict to evidence-based interventions on sensitivity and early attachments. In Berlin, L. J., Ziv, Y., Amaya-Jackson, L. & Greenberg, M. T. (Eds.), *Enhancing early attachments: Theory, research, intervention, and policy* (pp. 297-312). New York, NY: Guilford Press.
- van Ijzendoorn, Juffer, & Duyvesteyn. (1995). Breaking the intergenerational cycle of insecure attachment: A review of the effects of attachment-based interventions on maternal sensitivity and infant security. *Journal of Child Psychology and Psychiatry, 36*(2), 225-248.
- van Ijzendoorn, Schuengel, & Bakermans-Kranenburg. (1999). Disorganized attachment in early childhood: Meta-analysis of precursors, concomitants, and sequelae. *Development and Psychopathology, 11*(2), 225-249.

Van Zeijl, Mesman, van Ijzendoorn, Bakermans-Kranenburg, Juffer, Stolk, et al. (2006).

Attachment-based intervention for enhancing sensitive discipline in mothers of 1- to 3-year-old children at risk for externalizing behavior problems: A randomized controlled trial. *Journal of Consulting and Clinical Psychology*, 74(6), 994-1005.

Vando, Rhule-Louie, McMahon, & Spieker. (2008). Examining the link between infant attachment and child conduct problems in grade 1. *Journal of Child and Family Studies*, 17(5), 615-628.

Vaughn, & Bost. (1999). Attachment and temperament: Redundant, independent, or interacting influences on interpersonal adaptation and personality development? In Cassidy, J. & Shaver, P. R. (Eds.), *Handbook of attachment: Theory, research, and clinical applications*. (pp. 198-225). New York, NY: Guilford Press.

Vaughn, Egeland, Sroufe, & Waters. (1979). Individual differences in infant-mother attachment at twelve and eighteen months: Stability and change in families under stress. *Child Development*, 50(4), 971-975.

Volker. (2007). Infants' vocal engagement oriented towards mother versus stranger at 3 months and avoidant attachment behavior at 12 months. *International Journal of Behavioral Development*, 31(1), 88-95.

Walden, & Beran. (2010). Attachment quality and bullying behavior in school-aged youth. *Canadian Journal of School Psychology*, 25(1), 5-18.

Wampold. (2001). *The great psychotherapy debate: Models, methods, and findings*. Mahwah, NJ: Lawrence Erlbaum and Associates.

- Wampold, & Brown. (2005). Estimating variability in outcomes attributable to therapists: A naturalistic study of outcomes in managed care. *Journal of Consulting and Clinical Psychology, 73*(5), 914-923.
- Wampold, Mondin, Moody, Stich, Benson, & Ahn. (1997). A meta-analysis of outcome studies comparing bona fide psychotherapies: Empirically, "All must have prizes." *Psychological Bulletin, 122*(3), 203-215.
- Wandersman. (2003). Community science: Bridging the gap between science and practice with community-centered models. *American Journal of Community Psychology, 31*(3), 227-243.
- Ward, & Carlson. (1995). Associations among adult attachment representations, maternal sensitivity, and infant-mother attachment in a sample of adolescent mothers. *Child Development, 66*(1), 69-79.
- Warren, Huston, Egeland, & Sroufe. (1997). Child and adolescent anxiety disorders and early attachment. *Journal of the American Academy of Child & Adolescent Psychiatry, 36*(5), 637-644.
- Waters, & Deane. (1985). Defining and assessing individual differences in attachment relationships: Q-methodology and the organization of behavior in infancy and early childhood. *Monographs of the Society for Research in Child Development, 50*(1-2), 41-65.
- Waters, Merrick, Treboux, Crowell, & Albersheim. (2000). Attachment security in infancy and early adulthood: A twenty-year longitudinal study. *Child Development, 71*(3), 684-689.

Watson, & Geller. (2005). The relation among the relationship conditions, working alliance, and outcome in both process-experiential and cognitive-behavioral psychotherapy.

Psychotherapy Research, 15(1-2), 25-33.

Weinfield, Sroufe, Egeland, & Carlson. (1999). The nature of individual differences in infant-caregiver attachment. In Cassidy, J. & Shaver, P. R. (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (pp. 68-88). New York, NY: Guilford Press.

Weinfield, Whaley, & Egeland. (2004). Continuity, discontinuity, and coherence in attachment from infancy to late adolescence: Sequelae of organization and disorganization.

Attachment & Human Development, 6(1), 73-97.

Weisz, Donenberg, Han, & Kauneckis. (1995). Child and adolescent psychotherapy outcomes in experiments versus clinics: Why the disparity? *Journal of Abnormal Child Psychology: An official publication of the International Society for Research in Child and Adolescent Psychopathology, 23*(1), 83-106.

Weisz, Donenberg, Han, & Weiss. (1995). Bridging the gap between laboratory and clinic in child and adolescent psychotherapy. *Journal of Consulting and Clinical Psychology, 63*(5), 688-701.

Wen, Korfmacher, Hans, & Henson. (2010). Young mothers' involvement in a prenatal and postpartum support program. *Journal of Community Psychology, 38*(2), 172-190.

Wong, Mangelsdorf, Brown, Neff, & Schoppe-Sullivan. (2009). Parental beliefs, infant temperament, and marital quality: Associations with infant-mother and infant-father attachment. *Journal of Family Psychology, 23*(6), 828-838.

- Wood, Emmerson, & Cowan. (2004). Is early attachment security carried forward into relationships with preschool peers? *British Journal of Developmental Psychology*, 22(2), 245-253.
- Work, Cowen, Parker, & Wyman. (1990). Stress resilient children in an urban setting. *Journal of Primary Prevention*, 11(1), 3-17.
- Zeanah (Ed.). (1993). *Handbook of infant mental health*. New York, NY: Guilford Press.
- Zetzel. (1956). Current concepts of transference. *International Journal of Psycho-Analysis*, 37, 369-375.