

EXPLORING CHILDHOOD ATTACHMENT, THE COMBINED EFFECT OF PARENTAL  
ATTACHMENT/RESPONSIVENESS AND TEMPERAMENT

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## Abstract

### EXPLORING CHILDHOOD ATTACHMENT, THE COMBINED EFFECT OF PARENTAL ATTACHMENT/RESPONSIVENESS AND TEMPERAMENT

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Under the Supervision of Damira Grady, Ph.D.

The purpose of this study is to examine the joint effects of temperament and parental attachment style on child attachment. Based on an extensive review of research articles, it is predicted that a caregiver's, particularly a mother's, secure attachment will serve as a buffer when a child has a difficult temperament. Results can be used to inform the intervention for at risk infants, toddlers and youth. Furthermore, it can guide parents in providing the best parenting possible. Finally, this literature review expresses the need for continued research to completely understand the interplay of child temperament and adult attachment style on child attachment.

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## **Chapter One: Introduction**

Biology and environment each have an impact on child development, and are predictors for future child outcomes (Kagan, 2006; Siegel, 2003). Practitioners, educators, and parents are all invested in supporting optimal child development. A secure child attachment promotes optimal outcomes for children (Siegel, 2003). It is believed that a parents' secure attachment/responsive style will serve as a protective factor when the biological trait of temperament has a negative influence on child outcomes.

Infant attachment is an essential variable in regards to positive child development. The quality of attachment relationships in young children has been found to impact brain development, emotional regulation and coping, primarily through the neurobiology adrenocortical activity (Sprangle & Grossmann, 1993). Furthermore, quality of child attachment has been shown to transition into adulthood. Recent research completed by Smyth, Thorn, Oskis, Hucklebridge, Evans, and Clow (2015) suggests that attachment impacts health outcomes for female adults, indicating that young females with an anxious attachment style were more likely to have elevated cortisol (stress) responses responding to a group setting. With such significant outcomes, it is imperative to understand how to support healthy child attachment.

Healthy child attachment, often referred to as a secure child attachment, is impacted by how a child is parented. Optimal parenting is more likely to result from parents who display a "secure" attachment or responsive parenting style; while less optimal parenting typically comes from parents who are "insecure." Knowing that a parent's own attachment style impacts how one will provide care, practitioners, educators and parents cannot ignore how a parent themselves were parented.

However, parenting, and parent's attachment style is not the only variable to consider when understanding the development of child attachment. What the child brings to a relationship as a result of their biological temperament must also be understood. Kagan (2006) and other temperament researchers, Whittle, Allen, Lubman, and Murat (2006), provide convincing research through various longitudinal studies. Temperament plays a significant role in how one will respond to experiences and interact with their environment and those people and objects in it. Challenging temperamental traits (e.g. negative emotionality, inhibition and shyness) have been shown to negatively impact social development, academic skills and internalizing behaviors. Challenging temperamental traits have been shown to be a risk factor for poor socialability, challenges in math skills and increased behavioral problems (Gartstein, Putnam, & Rothbart, 2012; Sonsan, Henphil, & Smiart, 2004; Vilgaant, Auriola, Mullola, Virkaka, Hirvonon, & Pekarinen-Nurmi, 2015).

The importance of parenting style and temperament are each influential in child attachment and ultimately positive outcomes for success in regards to positive social emotional wellbeing, academics, and health. Theories have varied as to which of these variables is more significant or influential in supporting positive outcomes for child development as well as future adult development. Psychopathologist and neurobiologist Dan Siegel (2003) and psychologist and researcher Jerome Kagan (2006) are predominant researchers on attachment and temperament. Siegel, provides evidence in support of adult attachment/responsiveness while Kagan supports the role that biology or temperament plays in secure child attachment. Kagan (2006) argues that biology is more influential, while Siegel (2003) argues that adult attachment/responsiveness plays a more significant role. Is it possible that each of these variables is equally important? That the joint interaction between each temperament and

parental attachment/responsiveness is what influences the most positive outcomes for a secure child attachment?

As educators, practitioners and parents it is our obligation to understand the answer to this question. Too often, when children exhibit challenging behaviors we tend to try to correct the behavior or look to the child's temperament traits for answers. In order to fully understand the behavior of the child and how their temperament traits impact their development we must look at the interaction that the child is having with their caregiver. We must ask ourselves how the parents' interaction style interplays with the child's temperament. Additionally, we must understand what influences the parent's interaction style and the parents' attachment styles. By doing this intervention can be provided successfully, through facilitation of a secure child attachment. When a secure child attachment is facilitated negative outcomes of an insecure attachment can be avoided as well as the negative outcomes of difficult temperaments.

### **Statement of the Problem**

While research clearly identifies that both a difficult temperament (Gartstein, Putnam, & Rothbart, 2014; Sonsan, Henphil, & Smiart, 2004; Vilgaant, et al, 2015) and an insecure attachment (Frankel & Bates, 1990; Kesterbaum, Fraber, Sroufe, 1989; Steele & Steele, 2005) put children at risk for a number of negative outcomes (e.g. poor academic skills, increased internalizing and externalizing behavior, decreased coping skills and poor health outcomes) there is a lack of research examining how a child's temperament and a mother's attachment style might interact for better or for worse. Does a child with a difficult temperament benefit from having a secure attachment to their mother? Does a child with a difficult temperament who has a mother with an insecure attachment style fare worse than a child with an easy temperament who has a mother with an insecure attachment? What are the implications for a child with a difficult

temperament who has an insecure attachment style? Finally, what about a child with a difficult temperament who has a mother with a secure attachment? These are questions that only can be answered by looking at the interaction of both the role of temperament and parental attachment concurrently on a child's attachment. By looking at the interaction of the role of temperament and parental attachment concurrently practitioners will be able to intervene effectively.

Currently, interventions may target a child's behavior in isolation, but not provide intervention in regards to parental attachment/responsiveness.

### **Definition of Terms**

*Adult Attachment Style.* Research on adult attachment is guided by the assumption that the same motivational system that gives rise to the close emotional bond between parents and their children is responsible for the bond that develops between adults in emotionally intimate relationships. Adult attachment styles are noted to be secure, dismissive and avoidant. (Siegel, 2003).

*Attachment.* Bowlby (1969/1979) defines attachment as a bond that develops between infant and his/her caregiver, over the first year of life. The quality of that bond is most commonly measured by Ainsworth's Strange Situation procedure.

*Parent Sensitivity.* A caregivers (mother's) ability to perceive and infer the meaning behind her infant's (child's) behavioral signals, and to respond to them promptly and appropriately.

*Strange Situation procedure.* A procedure devised by Mary Ainsworth in the 1970's that measures attachment relationship between caregiver and child. It is completed through observation between birth and 18 months of age. Attachment relationship is placed in one of four groups and can be further placed in sub-groups within each category. The four groups are secure, insecure ambivalent (resistant), insecure avoidant and disorganized (Ainsworth, 1978).

*Temperament.* Researchers have agreed that temperament refers to biologically rooted characteristics, observed in behavior early in life, and showing some stability over time and life (Bates, 1989).

### **Purpose of the Study**

The purpose of the current study is to extend previous research by examining the role that both temperament and mother's attachment style play on a child's attachment. Whereas, the role of both temperament and mother's attachment style have been looked at individually on child's attachment, to my knowledge only four studies ( De Schipper, Oosterman, & Schuengel, 2012; Lionetti, 2014; Pluess and Blesky, 2013) have examined the interaction of these two variables on child's outcomes. Based on the individual-environment interaction seen in these studies' results, it is predicted that children will have the most positive outcomes when temperament provides optimal opportunity to engage in their environment (e.g. high sociability, low inhibition, high positive emotionality) and have a mother who reports a secure attachment style. However, it is also predicted that when a child has a more difficult temperament (e.g. high inhibition, high negative emotionality) that their mother's secure attachment style will serve as an important buffer for negative outcomes related to a difficult temperament, such as externalizing and internalizing behaviors and the possible development of an insecure attachment style.

### **Significance of the Study.**

Attachment, or more specifically attachment theory, plays a crucial role in understanding child development and providing intervention when there becomes challenges in a child's development, especially their social emotional development. Challenged attachment styles lead to poor outcomes as adults. As providers, whether a practitioner or educator, it is our obligation

to understand what influences and moderates attachment. Developing a comprehensive understanding of attachment and the role it plays provides a footwork for intervention when there are non-secure child attachments, child development concerns or social-emotional delays. If attachment style can serve as an important buffer for a difficult temperament then it will be critical for practitioners to recognize and identify the temperamental challenges in a child and intervene to promote a responsive parenting style, especially in these instances.

### **Summary and Forecast**

As documented above child attachment and temperament are each important constructs in regards to child development, especially in the area of social-emotional development. Research outlines the negative outcomes that may occur for children who are identified as having insecure attachments and difficult temperaments (Gartstein, et al., 2012; Sonsan, et al., 2004; Vilgaant, et al, 2015; Frankel & Bates, 1990; Kesterbaum, et al, 1989; Steele & Steele, 2005) . A current review of literature will provide a summary of temperament, child attachment, adult attachment styles/responsiveness, along with the negative outcomes associated with insecure attachment and difficult temperament traits. Finally, the findings on the joint effects of temperament and parental attachment/responsive parenting and the impact on negative outcomes will be highlighted.

## **Chapter Two: Review of Related Literature**

### **Overview**

This chapter will provide a summary of research findings in regards to attachment and temperament. First, attachment and temperament will both be defined and relevant outcomes associated with each construct will be discussed. This will provide a solid knowledge of the two constructs. Next, the role temperament plays in attachment development will be documented through various research studies. Finally, parenting style, and its function in influencing the degree in which temperament may influence attachment style will be highlighted.

### **Attachment**

Attachment is noted to be one of the major influences in shaping a child's development (Landy, 2012). Bowlby (1978) the father to attachment theory, argues that children are born with a predisposition to be attached to caregivers and that children will organize their behavior and thinking in order to maintain those relationships. Bowlby believed that caregiver relationships are crucial to children's psychological and physical survival" (Bettemen, 2006). Bowlby (1968) noted that as a result of the strong emotional connection between parent and child, the two will remain in close physical proximity. Once the child has an experience of feeling safe and secure from the physical closeness, he will begin to explore away from his caregiver. This exchange and movement between feeling secure and exploring, moving away from dependence, is the core of the attachment theory.

Ainsworth (1978) extended Bowlby's theory of attachment by defining attachment styles as secure, insecure avoidant, or insecure resistant. Each child is classified into one of these three types by their response to her Strange Situation procedure. In this procedure, 12 - 20 month old

children are brought into an unfamiliar room, and are subsequently separated from their caregiver. The child's behavior while with their mother, a stranger, and their reaction following reunion with their mother is used to classify them into one of the three attachment categories: securely attached, insecure avoidant, or insecure resistant.

Securely attached children are described by Ainsworth, Blehar, Waters and Wall (1978) as using their caregivers as a secure base for exploration. Further, the attached child demonstrates appropriate distress when the parent leaves and is comforted quickly upon return. According to Landy (2012), up to 60% of children are identified as securely attached.

Ainsworth (1978) identifies two types of insecure attachment: insecure ambivalent or insecure-avoidant. Insecure-ambivalent children do not use parents as a secure base for exploration and will begin to protest before the parent leaves the room. This child tends to be slow to warm upon caregivers return and may become angry (Ainsworth, et al., 1978). Insecure-ambivalent (resistant) has two subgroups C1 and C2 (Landy, 2012). Children who fall into group C1 are noted to be conspicuously angry and resistant and those in C2 are thought to be passive, unhappy and helpless (Landy, 2012). Insecure attachment styles are thought to make up 35% of the population with 15% of those being insecurely-ambivalent. It is noteworthy that the term anxious-ambivalent is also used interchangeably with the term anxious-resistant by researchers (e.g. Finzi-Dottan, et al., 2006; Hazan & Shaver, 1987).

Children with insecure-avoidant child attachment tend to show minimal emotion sharing during play. For these children little emotion is shown when the caregiver leaves or returns (Ainsworth, et al., 1978). Children who are ambivalent may interact with strangers the same they would their caregiver. Insecure avoidant attachment styles are broken into A1 and A2 with the

children in A1 being more extreme in ignoring their mother (Landy, 2012). According to Landy (2012) 20% of children are identified as being insecure avoidant.

Main and Solomon (1968) extended these attachment styles to include disorganized attachment. Characteristics of disorganized attachment include overt displays of fear and contradictory displays of behavior. For example, a child may move back to the caregiver after separation, but may do so by walking backwards towards them (Benoit, 2004). Disorganized attachment has been thought to make up 10% of the population (Landy, 2012).

Attachment styles have been shown to predict a number of important outcomes across the lifespan. In terms of peer relationships in early childhood, secure children usually do well socially, easily forming friendships (Pastor, 1981), correctly identifying emotions in others (Steele & Steele, 2005), and showing empathy (Kestenbaum, Farber, & Sroufe, 1989), whereas insecurely attached children (both resistant and anxious) are more easily frustrated and show more behavioral issues (Frankel & Bates, 1990). In later childhood, a similar pattern emerges with more securely attached children reporting higher self confidence levels, better social skills, and lower levels of aggression than insecurely attached children (Shaw, Owens, Vondra, Keenan, & Winslow, 1996).

When looking at the impact of attachment styles on both mental and physical health research also suggests that insecurely attached children and adults are more at risk for negative outcomes. For example, insecure attachment in preschool has been shown to be a risk factor for anxiety, especially for boys (LaFreniere, Provost, & Dubeau, 1992). Further, recent research completed by Smyth, Thorn, Oskis, Hucklebridge, Evans, and Clow (2015) suggests that attachment impacts one's health outcomes. These researchers found that female adults identified as anxiously attached were more likely to have poor health outcomes due to an increase in cortisol (elevated stress) during peer performance.

## **Parental Attachment Styles/Responsive Parenting**

Benoit and Parker (1994) has reported that a parent's attachment style also plays a critical role in the development of their child's attachment style. In fact, the primary caregiver's attachment style before a child is even born has been shown to predict their child's attachment accurately by as high as 80% (Landy, 2012). Parent's attachment styles are identified in the adult attachment literature as insecure attachment and secure attachment (Brennan & Shaver, 1995). Insecure attachment is defined under two categories: attachment anxiety and attachment avoidance. Characteristics of high attachment anxiety are: preoccupation with the availability and responsiveness of the other, maximization of negative experiences and hyper vigilance to a potential threat. Traits of an attachment avoidance are: tendency to devalue intimacy and dependency and maximize autonomous behavior strategies when faced with potential threat (Brennan & Shaver, 1995). A secure attached adult would have low levels of these characteristics and traits (Brennan & Shaver, 1995). With evidence of negative outcomes for insecure child attachments and these attachment styles carrying into adult hood a closer look into the benefits of a responsive caregiver is helpful.

Benoit (2004) reinforces Bowlby theory noting that a typically developing child attaches to any caregiver who provides regular physical and emotional care. The care that is provided can be positive or negative, therefore the question is not is there an attachment, but what is the quality of the attachment? An infant's need to have a responsive and attuned caregiver is further reinforced through Cohn and Tronick's "still face" paradigm (1983). In this paradigm, the infant becomes upset or even withdrawn when a caregiver responds to the infant's interactions with a flat affect or fails to respond to initiations in as short as one to two minutes (Cohn a Tronick, 1983). Ainsworth (1978) defined responsive caregivers as mothers who provided physical care,

affection and emotional communication in response to the signals provided by their child. A responsive parent is attuned, able to decipher the needs and wants of their child by reading the child's cues. A responsive parent provides the space that is needed for exploration while maintaining a secure base for a safe return and then continued exploration. This cycle of responsive, attuned parenting assists in forming a secure attachment.

## **Temperament**

Temperament is the biological component that children bring to the parent-child relationship. Researchers, Thomas, Chess, and Birch (1968) were the first to define temperament. Researchers Kagan and Fox (2006) and Rothbart and Bates (2006) provided further definition of temperament.

Temperament was initially looked at by Thomas, Chess, and Birch (1968) in their classic study of temperament. This study followed 133 individuals across their life-span and identified nine temperamental dimensions: Regularity/rhythmicity focuses on the consistency of biological functions such as eating, sleep wake cycle, and bowel elimination. Activity focuses on the level of motor activity and the ratio of activity to inactivity. Adaptability looks at how easily a child adapts to changes and transitions and the degree to which actions can be modified. Approach/withdrawals focuses on how easily a child accepts new things or experiences. Sensory sensitivity focuses on responses to difference in taste, texture and temperatures. Intensity of reaction focuses on the energy level the response holds to stimuli, either positive or negative. Mood refers to the amount of pleasant, joyful and friendly behavior that a child displays as compared with crying or complaining or unfriendly behavior. Distractibility focuses on how easily a child can be distracted by a stimuli. And finally, persistence/attention span refers to the amount of time an activity is pursued without interruption and its continuation in the face of obstacles.

Based on these nine dimensions, children are categorized into the easy type (40% of sample), the difficult type (10% of sample) or the slow to warm up type (15% of sample). From Thomas and Chess's (1968) sample 35% did not seem to be easily classified into these groups.

Kagan and Fox (2006) also emphasize the importance of temperament, but focus on two basic dimensions: inhibited and uninhibited. Inhibited children are described as shy, timid and cautious, and easily overwhelmed by novel stimuli as opposed to uninhibited children who are described as being much more sociable, bold, and outgoing. Uninhibited children are thought to make up 25-30% of the sample. Inhibited were thought to make up 15-20% of the sample with the remaining 50% being difficult to place.

Researchers, Goldsmith and Campos define temperament as individual differences in the probability of experiencing and expressing primary emotions and arousal (Zentner and Shiner, 2012). Goldsmith and Campos added the unique level of emotionality and personality to temperament stating, "that it is emotional in nature, pertains to individual differences, refers to behavioral tendencies, and is indexed by expressive acts of emotion, excluding cognitive, and perceptual factors, as well as transitory states." (Zentner & Shiner, 2012). Rothbart & Bates (2006) framework has three dimensions: extraversion, negative affectivity and effortful self-control.

Challenging temperamental traits have been shown to negatively impact social development, academic skills and internalizing behaviors. Sonsan, Henphil, & Smart (2004) found a correlation between temperament and social development. Specifically, participants high in negative reactivity and low on effortful control reported both more external behavior problems and internal behavior problems. In another study, negative emotionality and low task orientation as well as inhibition had a negative impact on skill development for math (Viljarant, Aunola, Mullola, Virkala, Hirvonon, & Pakarinen Nurmi, 2015). Finally, negative emotionality

(specifically frustration, sadness, and low reactivity) has been shown to lead to more externalizing behavior (Gartstein, Putnam, Rothbart 2012).

## **Key Elements of Research**

### ***Temperaments Influence on Attachment***

Other researchers have looked directly at the influence of temperament on one's attachment style. For instance, Dottan-Finzi, Manor, Tyano (2006) found temperament to be influential on attachment in children who have ADHD. The authors measured the temperamental traits of emotionality, sociability and shyness in 65 children who had a mean age of 11.05 years and had predominantly hyperactive impulsive and inattentive type ADHD. Results revealed that 1). the higher the child's temperamental activity level, the less likely he or she was to be characterized by an anxious attachment pattern, and 2). the higher his emotionality level, the more likely he was to show an avoidant attachment (Finzi-Dottan, Manor, & Tyano, 2006). From this sample we are able to conclude that the temperamental characteristic, activity level (high level), has a positive effect on decreasing the formation of an anxious attachment and that the temperament trait, negative emotionality (high level) has a negative effect contributing to the formation of avoidant attachment.

Fuertes, Santos, Beeghy and Tronick (2006) in their study also hypothesized that temperament would have an influence on child attachment. This longitudinal study measured 48 children at one, three, nine and twelve months of age. Temperament was measured at 3 months utilizing the Escala de Temperamento do Beb  (1994) and attachment was measured at 12 months of age using the Strange Situation (Ainsworth, 1978) procedure. Infants found to be high on negative emotionality, a temperamental trait, were more likely to be insecurely-ambivalent.

The influence of the temperament trait, negative emotionality, on child attachment was further investigated by Chen, Lin and Chun (2012), but results did not support Fuertes et al. (2006) finding that negative emotionality would impact secure attachment. The researchers hypothesized that children's emotionality would have a direct and indirect effect on their attachment security. Research was conducted on 546 5th and 6th graders utilizing the Emotionality Activity Scalability (EAS) Temperament Survey (Buss & Plomin, 1984) and the Attachment Security Scale (Hazan and Shaver, 1987). Negative emotionality did not have a significant effect on secure child attachment or on insecure child attachment. However, it is important to note that this study was conducted with an older age sample than the previous samples (fifth and sixth graders compared to infants and toddlers) and that the moderating effect of temperament between parental attachment style and child attachment style was not examined.

***Joint Effects of Temperament and Parental Attachment/Responsive Parenting on Outcomes***

Whereas early research focused on the individual effects of temperament and parental attachment's effect on a child's attachment style or whether one was more important than the other, more recent research has shifted to trying to better understand the interplay between temperament and parental attachment style/responsive parenting on various outcomes. Examining the interplay of temperament and parental attachment style/responsive parenting on outcomes is consistent with the individual-environment interaction hypothesis (Vaughn et al., 2008) which predicts a different degree of impact by the environment as a function of individual temperament.

Four specific studies appear to support this individual-environment interaction hypothesis. In the first, Conradt et al. (2013) found that the most reactive infants exhibited the lowest levels of problem behavior if reared in an environment that fostered attachment security, but the highest levels of problem behavior if reared in an environment that fostered attachment disorganization.

Other research suggests that children with a difficult temperament were most at risk for negative outcomes if they were raised in a poor quality environment, but that if they had a difficult temperament and were raised in a high quality environment their temperament was not a risk factor (Pluess & Blesky, 2013).

Most recently, Lionetti (2014) noted the importance of examining the joint effects of temperament and parental attachment style on child attachment. Lionetti (2014) sampled 30 early placed adoptees with a mean age of 5.37 months. His work assessed child attachment using the Strange Situation (Ainsworth, 1978) procedure and temperament utilizing the Infant Behavior Questionnaire (Rothbart, 1998). Findings revealed that the mother's secure attachment style, but not the adoptees' temperament, increased the likelihood of secure attachment in adoptees and against disorganized attachment. However, children who were high in orienting regulation capacity, a temperamental trait, were those who benefited the most from their mother's secure attachment status. Finally, the influence of temperament on attachment security was further examined by De Schipper, Oosterman and Schuengel (2012). Their research closely examined the moderating effect of temperament shyness on the association between parental sensitivity and attachment security in foster children. This research sampled 59 foster children with a mean age of 57 months. Results revealed that shy children who had more sensitive foster parents were more often securely attached.

### **Summary and Forecast**

The results of these four studies (Conradt et al, 2013; De Schipper, Oosterman, & Schuengel, 2012; Lionetti, 2014; Pluess and Blesky, 2013) conclude that a child's temperamental traits have less influence on developing a secure child relationship than does parental secure

attachment/parenting style. Given these results intervention strategies, when an identified insecure child relationship is found, should lie in better understanding the parents' adult attachment style, and facilitate the parent in developing an earned secure attachment style. By assisting a parent in making sense of their own attachment, the development of the child will be positively influenced, possibly impacting challenging temperament traits and decreasing negative externalizing and internalizing behavior. By addressing parent attachment, and perhaps changing the outcome for an insecure attachment, a child will also glean the benefits of having a secure attachment style for themselves as well as generations to come.

Zetner & Shiner (2011) suggest that both temperament and attachment influence each other in a transactional way and that both are open and subject to parenting style. It appears that this suggestion is relevant as evidenced by this literature review and should be further examined. Further examination can provide continued support in intervention models.

### **Chapter Three: Conclusions and Recommendations**

Based on the literature review it can be concluded in order to comprehensively understand the role attachment plays in child development it is important to be aware of how various variables impact attachment. This review concludes that the controversial debate of nurture (attachment style) versus nature (temperament) is simplistic and rather the interplay between both these variables tells a more accurate story.

Examining the interaction between temperament and maternal attachment/responsive parenting on child-hood secure attachment appears to be an area ripe for study. Not only does Lionetti (2014) call for the need to examine temperament as a moderator variable in the maternal attachment-child attachment relationship, but the results from his study and others (Belsky & Puess, 2009; Contradt, 2013; De Schipper, Oosterman, & Schuengel, 2012) suggest that various temperament characteristics may make children more or less likely to benefit from secure parenting.

Further, much of the research looking at the role of temperament on attachment has been conducted with very young children. It would be beneficial to explore the joint effects of temperament and parent attachment style on child attachment with an older sample of children. In addition, Siegel (2003) and Iwaniec & Sneddon (2001) have documented that attachment is fluid, which can change over time, depending on relationship changes, environmental influences as well as developmental changes. The fluidity of attachment styles potentially leads to varied results in research when comparing attachment styles and the impact of temperament. For this reason a longitudinal study examining how these variables over time would also be of interest.

It would also be valuable to conduct research in which the following variables are consistent: tools measuring temperament and attachment styles, age of children and population.

By using consistent variables the data now has the potential to provide accurate data. Given that the majority of research on attachment has been conducted with white children, replication of these studies with a more diverse sample would strengthen the generalizability of these findings.

Finally, in regards to extensions of research, Kennedy, Betts & Underwood (2014) have begun research on sibling attachment. A theory could be posed that if a parental sensitivity and adult attachment style is consistent and child temperament does not have significant weight in moderating child attachment, then siblings would have matching attachment styles. Testing this theory would provide additional information on the role of temperament in attachment development.

Findings of this lit review, that an adult secure attachment/responsive parenting is more influential on the development of a secure attachment when there are challenging temperamental characteristics of negative emotionality and inhibition, provides direction for intervention when concern with child attachment style is identified; or to investigate child attachment when challenging temperamental traits are present. These findings support that intervention will be most beneficial when it focuses on parental attachment and responsiveness rather than isolating behavior resulting from temperament traits.

Dan Siegel and Alicia Lieberman are two practitioners whose intervention focuses on adult attachment styles and parent-child relationship. Dan Siegel's work provides guidance and support to parents in understanding their attachment history and how previous experiences as children, influences how we parent today. Siegel's effort supports parents in creating a cohesive narrative of their childhood experience and as a result impacts their ability to parent thoughtfully and intentionally rather than reactively. An excellent resource to support the creation of this narrative is, Parenting from the Inside Out (2003).

Another excellent therapeutic model focusing on relational intervention is Child Parent Psychotherapy (CPP). Lieberman (2011) designed the intervention model for children aged 0-5 who have experienced traumatic events and/or are experiencing mental health, attachment and or behavioral problems. Therapeutic sessions include the child and parent or primary caregiver. A central goal is to support and strengthen the caregiver-child relationship as a vehicle for restoring and protecting the child's mental health. Five randomized trials have been conducted on the model and found effective (Lieberman, Weston, Pawl, 1991; Toh, Maughan, Manly, Spagnola, Cicchetti, 2002; Lieberman, Van Horn & Grossh Ippen, 2005; Lieberman, Ghos, Ippen & Vanhorn, 2006; Ghosh Ippen, Harris, Van Horn, Lieberman, 2011).

After conducting this literature review, in which research highlights the interplay between the combined effect of parental attachment/responsiveness and temperament, as well as the positive outcomes when dyadic/ relational intervention techniques are utilized; practitioners and educators are compelled to enhance their practice by incorporating these findings into their intervention. If these findings are ignored, practitioners and educators risk missing a critical component to intervention. Without addressing the caregiver/child relationship, and the interplay between adult attachment style/responsiveness and child temperament, a fundamental contributor in regards to the concerns brought forth for intervention will be lost in the treatment process.

The caregiver/child relationship can be viewed as a primary building block in establishing a strong foundation for a child. This strong foundation serves as a protective factor or buffer when a child's innate temperament is one that can be identified as challenging (e.g. high negativity, high emotionality). When the building block related to caregiver/child relationship has a crack or cracks and there is a concern for the child's mental health wellbeing or behavior

concerns, this crack must be repaired. The first step in repairing a crack in the relationship between child and caregiver are for practitioners and educators to acknowledge the combined effect of parental attachment/responsiveness and temperament.

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