

6-2015

Addressing the Dual Primary Attachment Figure Model: An Exploration of Father Attachment

Vanessa N. Greenwood

California State University - San Bernardino, greenwov@coyote.csusb.edu

Follow this and additional works at: <http://scholarworks.lib.csusb.edu/etd>

Recommended Citation

Greenwood, Vanessa N., "Addressing the Dual Primary Attachment Figure Model: An Exploration of Father Attachment" (2015). *Electronic Theses, Projects, and Dissertations*. Paper 195.

This Thesis is brought to you for free and open access by the Office of Graduate Studies at CSUSB ScholarWorks. It has been accepted for inclusion in Electronic Theses, Projects, and Dissertations by an authorized administrator of CSUSB ScholarWorks. For more information, please contact scholarworks@csusb.edu.

ADDRESSING THE DUAL PRIMARY ATTACHMENT FIGURE
MODEL: AN EXPLORATION OF FATHER ATTACHMENT

A Thesis
Presented to the
Faculty of
California State University,
San Bernardino

In Partial Fulfillment
Of the Requirements for the Degree
Master of Arts
In
Psychology:
Child Development

By
Vanessa Nadeen Greenwood

June 2015

ADDRESSING THE DUAL PRIMARY ATTACHMENT FIGURE
MODEL: AN EXPLORATION OF FATHER ATTACHMENT

A Thesis
Presented to the
Faculty of
California State University,
San Bernardino

By
Vanessa Nadeen Greenwood

June 2015

Approved by:

Dr. Laura Kamptner, Committee Chair, Psychology

Dr. Amanda Wilcox-Herzog, Committee Member

Dr. Matt Riggs, Committee Member

Copyright 2015 Vanessa Nadeen Greenwood

ABSTRACT

This study attempted to investigate father attachment using the dual primary attachment figure model by examining caregiving and exploration behaviors of mothers and fathers as they relate to attachment security utilizing an archival data set of 177 young adult females. A subsequent factor analysis of the involvement scales revealed four distinct items creating the caregiving variables (one for mother and one for father) and six items creating the exploration variables. Results showed that mothers engaged in caregiving and exploration behaviors more than fathers, but their exploration predicted mother attachment more than caregiving. Fathers engaged in more caregiving than exploration, but it was their involvement in exploration that was more strongly related to father attachment. These findings, which provide partial support for the dual primary attachment figure model, suggest that father exploration is a cornerstone for the father-child attachment relationship, but also predictive of mother-child attachment. Future studies should include observational assessments of father attachment as well as exploration in current assessments of father attachment.

ACKNOWLEDGMENTS

Thank you to my mom, who has always been there for me. But more than that, she raised me to be ambitious, to be inquisitive, and to be the best that I could be. Thank you to my dad, Tim, who has loved me and supported me with a gentle grace that only the best of dads ever master. Thank you to my husband, who has comforted me through this whole process, encouraged me, and shared in all of my triumphs. And thank you to my best friend, Shana, who will always be there for me, and is the sweetest person I know. Here's to many more adventures everyone! I love you all.

To my mentor, for challenging me and making me better

TABLE OF CONTENTS

ABSTRACT	iii
ACKNOWLEDGMENTS	iv
LIST OF TABLES	ix
LIST OF FIGURES	x
CHAPTER ONE: INTRODUCTION	
The Dual-Primary Attachment Figure Model	1
Research Studies on Fathering	3
Attachment Theory	5
Attachment Classifications	9
Issues in Defining Father Attachment	10
Level of Sensitivity	10
Sensitivity in Play	12
Encouraging Exploration	16
Summary	19
Parental Behavior and Gender Roles	20
Dual-Parent Household Attachments	21
Summary and Purpose of Study	23
CHAPTER TWO: METHODS	
Participants	26
Measures	26
Mother/Father Involvement	27

Mother/Father Attachment	27
Demographic Items.	28
Procedure	28
CHAPTER THREE: RESULTS	
Preliminary Analysis	29
Analyses	31
CHAPTER FOUR: DISCUSSION	
Introduction	35
Hypothesis One and Four	35
Hypothesis Two	36
Hypothesis Three	36
Hypothesis Five	37
Summary	40
Limitations	41
Future Directions and Implications	42
APPENDIX A: FATHER INVOLVEMENT SCALE	44
APPENDIX B: INVENTORY OF PARENT AND PEER ATTACHMENT	46
APPENDIX C: PARENTAL INFORMATION AND DEMOGRAPHICS	49
APPENDIX D: MOTHER FACTORS	53
APPENDIX E: FATHER FACTORS	56
APPENDIX F: MEANS, STANDARD DEVIATION AND RELIABILITY DATA	59

APPENDIX G: BIVARIATE SCATTERPLOTS	61
REFERENCES.....	64

LIST OF TABLES

Table 1. Items Comprising “Caregiving” and “Exploration” Factors for Mothers and Fathers	30
Table 2. Mother and Father Correlations Between Attachment Security, Exploration, and Caregiving	33

LIST OF FIGURES

Figure 1. Dual-Primary Attachment Figure Model	22
Figure 2. Mean Scores for Mother and Father Caregiving and Exploration	32

CHAPTER ONE

INTRODUCTION

The Dual-Primary Attachment Figure Model

Mother-child attachment has been an important area of study for the past 50 years; however, the father-child attachment relationship has been largely ignored. The few studies that have attempted to examine this have found inconsistent links between paternal sensitivity and attachment security in young children. This has pushed researchers to conceptualize father attachment as unique from mother attachment. It has recently been proposed that fathers may be utilized by children as an attachment figure through their encouragement of exploration and play. The purpose of the current study is to examine this hypothesis utilizing an archival data set.

Throughout history, fathers have rarely been regarded as caregivers in western culture. Mothers, not fathers, were expected to change, dress, bathe, and feed their children, especially in infancy (Rotundo, 1985). In fact, it was not uncommon for fathers to refer to their children as their wives' babies until the children were around three years of age and therefore had a better grasp of language (Pleck & Pleck, 1997). Fathers could then instruct their older children on such matters as morality and farming, especially boys (Rotundo, 1985). When fathers' roles shifted from agricultural to more urban work during the Industrial Revolution in the early 1800s, their importance and presence in the

home is thought to have diminished even more (Rotundo, 1985). Moving work from the family farm to factories meant it was no longer feasible to bring children along to work, so fathers' time at home and with the children decreased (Rotundo, 1985). Because of fathers' minimal role in childrearing and his decreased presence in the home, early childrearing advice was aimed primarily at mothers, commenting little on the fathers' role with children (Parke & Stearns, 1993). In fact, the belief that mothers, not fathers, should be the primary caregiver has persisted into the 20th and 21st centuries, and mothers are still more involved in the caregiving of their children than are fathers (e.g., Yeung, Sandberg, Davis-Kean, & Hofferth, 2001).

Although fathers have not historically been responsible for caregiving (at least in western cultures), they have taken on a myriad of other roles ranging from "breadwinner" to "teacher" to "playmate" during the last century (Tamis-Lemonda, 2004). During the late 1800s, for example, fathers were seen primarily as the "breadwinner" (Pleck & Pleck, 1997) regardless of their occupation. Failure to provide financially for the family indicated that a father was not performing his rightful duty, i.e., that he was "less of a man" since mothers generally did not work outside of the home (Pleck & Pleck, 1997). Another role attributed to fathers in the last century has been that of "teacher": whether working on a farm or in a factory, fathers were often charged with teaching their children (especially their sons) morality and work ethics (Rotundo, 1985). Lastly, the "playmate" role has also been associated with fathering. Fathers have

typically been described as playing more with their children and engaging in different types of play than mothers (Parke & Stearns, 1993). Fathers' dominance in play with their children might be facilitated by the fact that fathers who spent more time at work had less time with their children and thus were more likely to spend what time was available in play (Tamis-Lemonda, 2004). In sum, while not traditionally the primary caregiver, fathers have still been involved with their children over the course of history.

Research Studies on Fathering

There have been fewer studies on fathering (and the father-child relationship) compared to research on the mother-child relationship (Flouri, 2005). While mothers have certainly had a significant impact on their children's lives and development, "...in emphasizing the undeniable importance of mothers, theorists had lost sight of the broader social context in which infants develop" (Lamb, 1982, p. 185).

Within the last few decades, there have been more research studies on fathers' unique roles in children's lives (Flouri, 2005; Russell & Radojevic, 1992). Studies have shifted from initially focusing on "if" fathers played an important role in the family dynamic, to "how" their involvement affected children's development. Most recently, the focus has shifted to father as an attachment figure (i.e., "father attachment"). Each of these research trends is discussed in detail below.

Research on fathers in the 1970s focused on exploring fathers' roles in children's lives to determine if fathers played an important role in the family

(Lamb, 1997a). Studies showed that fathers could be as competent as mothers in parenting, even if they were not as present in the home as mothers were. For instance, Parke and Sawin (1976) found that in spite of fathers' limited presence in the home, they were just as sensitive during caregiving activities (e.g., changing, feeding, dressing) as were mothers. These early studies suggested that fathers were valuable to the family in ways other than their monetary contributions and discipline, such as their emotional investment in the family (Parke & Stearns, 1993).

Researchers in the 1980s began to explore how fathers impacted the family, specifically how the amount and quality of time spent with children could impact children's development. Termed "father involvement", this research found that fathers did contribute to their children's development in a variety of ways. Higher amounts of father involvement in early childhood, for example, were found to be a protective factor against mental health problems for both genders, and children with highly involved fathers were reportedly happier when compared to children with less involved fathers (Flouri, 2005). However, father involvement was found to be more than the quantity of their involvement; it was also about quality of those interactions with their children (Pleck, 1997). "Quality" pertained more to the emotional availability and the amount of engagement (Pleck, 1997) during interactions with children. Thus, an "involved father" was more than simply a breadwinner or playmate, but one who provided his children with both a physical and emotional presence during interactions (Pleck, 1997). Finally,

studies also illustrated that a father's relationship with the child's mother, the quality of their interactions with the child, parental stress (Lamb, 1997a), and even the gender of the child (e.g., Pleck, 1997) could impact how a father behaved towards his children or family. Thus, fathers began to be researched not just for their own importance in the family, but also the way the family system itself influenced them.

Most recently, research studies in the last decade have begun to examine the father as an attachment figure. While most research studies to date on attachment have focused on mothers (with fathers generally being viewed as subsidiary attachment figures) (Bowlby, 1969; Bretherton, 2010), studies show that both parents can be utilized as a secure base (Paquette, 2004). Research findings of a distinction between mother and father attachment are somewhat unclear, though, and suggest that the nature of the attachment relationship between parent and child may differ for mothers and fathers (e.g., Newland & Coyl, 2010).

Attachment Theory

Bowlby (1969) described attachment as the strong affectional relationship that develops over a series of interactions between an infant and his/her caregiver. Attachment is a feeling state within both the infant and the parent (Condon, Corkindale, & Boyce, 2008), characterized as a deep emotional, psychological, and personal connection which provides an infant with a feeling of safety (Bowlby, 1969) and persists across the lifespan (Bowlby, 1977). The

attachment relationship exists in a context where both parent and child constantly work together to create a relationship of trust and security by interpreting one another's cues and determining the best action at any given moment that will enhance the relationship (Cassidy, 2008). For example, a child who cries may reach for their caregiver, and a responsive caregiver will simultaneously move toward their child and reach down to pick up and soothe the child which in turn enhances the trust between the two (Cassidy, 2008). Many have offered the term "secure base" to describe how trust develops within the attachment relationship when the caregiver can be utilized as a stable and reliable point from which to explore and return to in times of distress (Ainsworth, Blehar, Waters, & Wall, 1978). Attachment is a mutual relationship that develops over time, with each interaction between infant and caregiver contributing to the infant's model of what to expect from future or other relationships (Bowlby, 1969).

Bowlby (1969) proposed that attachment was more than a bond between parent and child; it was a function of ingrained behaviors in the parent and the child that would facilitate the survival of the child. Through the use of attachment behaviors, an infant will seek proximity to their caregiver through crying, grasping, or following (Bowlby, 1969). Through the use of exploratory behaviors, infants test boundaries to investigate their surroundings when their attachment system is not activated (Bowlby, 1969). Both behaviors facilitate survival. The survival of the infant, however, requires more than attachment and exploratory

behaviors from the infant; it also depends on particular interactions with the caregiver.

A healthy attachment develops from a series of warm, sensitively attuned, and responsive interactions with the caregiver (Bowlby, 1969; Davies, 2011). It is a caregiver's "positive affect" during these interactions and during the activities they engage in with their child that further cements the attachment relationship and makes it enduring and healthy for the child (Sroufe & Waters, 1977). A healthy attachment also includes a feeling of mutual enjoyment between the infant and her caregiver (Bretherton, 1992). When the caregiver enjoys being with their infant, the child too will enjoy being with his/her caregiver. In this way, there is a shared role in developing and strengthening the relationship over time.

Another component of a healthy attachment is that caregivers serve as a "secure base." A secure base refers to an infant's internalized concept that his/her caregiver can be trusted and will be responsive during times of distress or danger (Ainsworth et. al., 1978), and can also be trusted during times of exploration or calm. This is often achieved through the infant maintaining proximity to his/her caregiver to ensure he/she will be protected/safe. In early environments, the infant who maintained proximity to his/her caregiver was less likely to be killed or attacked by predators (Bowlby, 1969; Cassidy, 2008); thus, it became important for infants to trust that their caregivers would remain close. Infants also utilize their caregiver as a secure base for exploration as the ability to explore can only occur when the infant feels safe and secure through the

presence and comfort of their caregiver (Bowlby, 1977). When an infant does not feel threatened, he/she will decrease his/her proximity to the caregiver so that he/she may interact with the environment. Attachment behaviors and exploratory behaviors are both necessary for survival (Bowlby, 1969), and both play a role in a child using a parent as a secure base. A secure base, then, is more than comfort in times of distress (though this is very important), but is simultaneously necessary to encourage offspring to challenge themselves under the premise that they will remain protected.

Mother-infant attachment has been defined as the strong affectional relationship that develops over time between infant and caregiver through warm and sensitive caregiving interactions (Bowlby, 1969). The quality of the attachment relationship between a mother and her infant has largely been measured through use of the Strange Situation Procedure (SSP), i.e., the first observational (laboratory) method used to assess attachment between infant and caregiver (Ainsworth et al., 1978). The SSP was developed and validated with use on mother-child dyads. Through creating mild distress in the infant, an infant's attachment system is activated and researchers can measure how infants utilize their caregiver, i.e., the mother, as a secure base through the infants' use of proximity seeking, and other attachment behaviors (e.g. grasping, crying) (Ainsworth et al., 1978). Infants will use their mother as a secure base when she has been sensitive and responsive in the past and expect her to respond to their attachment behaviors by comforting them (Ainsworth, 1979). In

this assessment, mothers function as a secure base primarily through soothing behaviors (measured during the reunions of mother and child), and sensitivity toward the child (versus actively encouraging exploration). Sensitivity and caregiving behaviors have been the hallmarks of mother-infant attachment (Ainsworth, 1979). This construct of mother attachment has been consistent in the research, and infants' use of the mother as a secure base has been found across cultures (Posada et. al., 2013). That is to say, mothers seem to universally soothe and comfort their infants in times of distress. Further, caregiver sensitivity has been a key factor in attachment research in that studies have consistently shown that higher maternal sensitivity predicts more secure mother-child attachment (Ainsworth, 1979; VanIjzendoorn and DeWolff, 1997). Sensitivity refers to a caregiver's ability to respond appropriately to infant cues of needing to be held, fed, put down, etc. (Ainsworth, 1979; Davies, 2011). When mothers are not sensitive, infants do not develop a secure attachment (Miljkovitch et al., 2013).

Attachment Classifications

There are four attachment classifications that have been established through work on maternal sensitivity and the secure base. The first and most common is infants who are "securely attached". Mothers of these children are responsive, sensitively attuned to their child's needs, and warm (e.g., Ainsworth, 1979). The second and third classifications are both "insecure attachments" (insecure-ambivalent and insecure-avoidant). Mothers of these children do not

adequately respond to their child's signals or needs, often ignoring them or mistaking them for other needs (Ainsworth, 1979). Lastly, a "disorganized attachment" status stems from a rather troubled relationship between a mother and child in which the mother is emotionally absent, frightening to the child, and unpredictable; this behavior is typically related to a mother's mental disorders or substance abuse (e.g., Sroufe, 2005). Such classifications illuminate further the need for certain maternal characteristics for an optimal attachment relationship. She must be sensitive to the child's needs and respond appropriately, be reliable and trusted, and be warm during interactions with the child.

Issues in Defining Father Attachment

Research studies on attachment suggest that there may be a difference between father-child and mother-child attachment. Such differences include level of sensitivity, sensitivity in play/exploration, and the degree of encouraging exploration (often termed the "activation relationship").

Level of Sensitivity. Father attachment has most often been measured through use of the Strange Situation Procedure (SSP) with the focus on paternal sensitivity. Sensitivity can be described as a parent's ability to recognize and react appropriately to infant cues and signals in an affectionate and timely manner (Ainsworth, et al., 1978). The concept of 'sensitivity' remains central to the analysis of attachment, but there are mixed results as to whether this characteristic as measured in this assessment (i.e., soothing behaviors) is most relevant to the father-infant relationship or not. For example, VanIjzendoorn and

DeWolff (1997) analyzed eight studies that assessed father-infant attachment through the use of the SSP and found that the relationship between comforting and soothing behaviors in times of distress in the SSP (i.e., sensitivity) is a better predictor of infant attachment status (in the SSP) for mothers than fathers. Consistent with these findings, Brown, Mangelsdorf and Neff (2012) also found a nonsignificant association between paternal sensitivity and attachment at 13 months when using the SSP. That is, paternal sensitivity at 13 months did not relate to children's later attachment status during a home observation with fathers. However, the authors note that the effect size for father attachment in their analysis was slightly larger than that reported in VanIjzendoorn and DeWolff (1997) and the predictive power of sensitivity for attachment was greater at three years than at 13 months when using a different measure of attachment (i.e. The Attachment Q-sort) to assess child behaviors across nine different categories (Brown, Mangelsdorf & Neff, 2012). The Attachment Q-sort assesses the use of the parent as a secure base during exploration and a source of comfort when distressed, so it varies slightly from the way sensitivity is measured in the SSP (i.e., only when the child is distressed). Overall, much of the research suggests that sensitivity of fathers during the SSP is not related to subsequent assessments of early attachment. Thus, it may not be that children are not as securely attached to their fathers as to mothers, but rather that the measure used (i.e., the SSP) plays a role in determining the infant's attachment status.

Consistent weak effect sizes of father-infant attachment using the SSP (e.g., Luccassen et al., 2011; vanIjzendoorn & DeWolff, 1997) but not for other measures have led researchers to propose that measures other than the SSP may better assess father attachment (Condon et al., 2008). The problem may be that the central concept the SSP is designed to measure, i.e., “sensitivity,” determines attachment status by assessing reunions of the parent and child, and the parent’s ability to comfort the child upon reunion (Ainsworth et al., 1978). Other researchers have argued that “sensitivity” can exist in a variety of ways within the parent-child relationship; for example, sensitivity during play. In summary, the consistent findings that the SSP shows a weaker father-child attachment than mother-child attachment, has led researchers to consider that it may not be the best measure for father-child attachment.

While researchers have suggested that it is difficult to ascertain whether it is the measure (SSP) itself that affects the way the father-child attachment relationship is viewed, no study has followed fathers with their infants as Ainsworth did with mothers in Uganda and Baltimore. However, if the uncertainty of the nature of father-child attachment is indeed due to the measure, an alternative way to measure the father-child attachment relationship is through sensitivity in play.

Sensitivity in Play. Given the inconsistencies in research on paternal sensitivity and the SSP, father attachment has been examined in light of fathers’ sensitivity and responsiveness paired with their role in children’s exploration and

play. Researchers have proposed that father attachment might be different from mother attachment by fathers' unique role in exploration and play with young children paired with sensitivity and responsiveness (e.g., Grossmann et al., 2002; Paquette, 2004). For fathers, it might be that sensitivity alone is not a strong predictor of attachment, but instead, it is their sensitivity during play interactions that strengthens the attachment relationship. Play sensitivity has been described as an activating interaction between a caregiver and child to either stimulate or encourage play or exploration (vanIjzendoorn & DeWolff, 1997). Measures of this behavior have focused on the parents' supportiveness, their encouragement and praise, attentiveness, and positive affect during play, as well as their ability to let the child guide the play (Grossmann, Grossmann, Kindler, & Zimmerman, 2008). Research on father attachment during play has found that early paternal play sensitivity is a stronger predictor of children's long-term attachment status (as measured by the Adult Attachment Interview when the child was 16 years old) because it assesses a variety of other factors (e.g., supportiveness, praise) instead of simply reunion behaviors (Grossmann et al., 2002). Further, it has been proposed that fathers' role in play and exploration, which typically exceeds that of mothers, is the foundation for the distinction of the father-child relationship compared to the mother-child relationship (Grossmann et al., 2002; Newland & Coyl, 2010; Paquette, 2004).

Fathers' role as a trusted play companion is not contradictory to Bowlby's (1969) original work. Bowlby (1969) highlighted the importance of exploration as

a component of the attachment relationship, necessary for survival as much as attachment behaviors (like proximity-seeking) are. The component of a secure base was added later, but an infant's ability to freely explore his/her surroundings with a caregiver nearby suggests that he/she must first feel safe to investigate surroundings and return occasionally as needed (Ainsworth et al., 1978).

Through functioning as a play companion who encourages children to push boundaries and learn in a safe environment (with their caregiver nearby), fathers can remain sensitive to their children's needs while facilitating the necessary aspect of exploration, perhaps even more than mothers. Each parent, however, engages in both exploration/play, and secure base/comfort with their children as part of what has been described as a dual primary attachment figure model (Newland & Coyl, 2010). This model, as suggested in an interview with Sir Richard Bowlby (Newland & Coyl, 2010), highlights that when two parents are present, one will be utilized more for "secure base and comfort" whereas the other will be utilized more to excite and encourage exploration (and that both can be primary caregivers). Instead of the previous notion that fathers serve as subsidiary attachment figures, he proposed that fathers can simultaneously be a primary attachment figure, and serve a different purpose compared to mothers. Fathers can be utilized more for play, exploration, and excitement, while still being an attachment figure under the umbrella of attachment that Bowlby (1969) described.

Furthermore, Grossmann et al. (2008) posit that it is not a father's sensitivity during times of distress that predicts father-infant attachment as has been measured through the SSP, but rather it is his sensitivity during play and exploration. Longitudinal studies using the Sensitive and Challenging Interactive Play scale (SCIP), a measure that assesses the free play of each parent with their child when their attachment system is not activated, support that fathers' sensitivity during play was a better predictor of long-term attachment to father (as measured by the Adult Attachment Interview at 16 years old) compared to the SSP (Grossmann et al., 2002). Sensitivity in the Sensitive and Challenging Interactive Play scale was created through Ainsworth's concept of sensitivity from the SSP, but applied to a play setting (i.e., play sensitivity) to include parents helping their children during play, cooperating with their child (i.e., not interfering), being sensitive to them when challenges occur during play, and accepting of the child's direction of play (Grossmann et al., 2002). This would support the idea that infants utilize their fathers as attachment figures; however, they are utilized more to encourage exploratory behaviors rather than to provide comfort in times of distress.

It is important to note that a meta-analysis found no significant association between paternal play sensitivity and attachment security (as measured by the SSP) even when controlling for exploratory play/stimulation, but this analysis was conducted on a small number of studies, and the definition of exploratory play/stimulation was limited to any action from a caregiver that would encourage

play instead of multiple aspects as is present in other assessments (e.g., Sensitive and Challenging Interactive Play scale) (Lucassen et al., 2011). This highlights that play sensitivity has not been explored consistently when judged in meta-analyses (when it is included at all), and that there is great need to explore this concept further if there are mixed results among meta-analyses and other studies.

In summary, play sensitivity may be one key characteristic of the father-child attachment relationship. This highlights that a potentially significant difference between mothers and fathers appears to be fathers' role in play and exploration while remaining sensitive.

Encouraging Exploration. The concept of play sensitivity and exploration has been used to define the father-child attachment relationship as the "activation relationship." Paquette (2004) defined father-infant attachment (as distinct from the mother-infant attachment) as "the activation relationship." The "activation relationship" provides an alternative way of conceptualizing the father-child attachment relationship in that the child seeks out the father as a trusted guide to explore his/her surroundings. Sensitivity and responsiveness are still important as the child must have learned that the father can be trusted and will ensure their safety (Paquette, 2004). In the "activation relationship", infants utilize their father not when they are distressed, but when their attachment system is not activated and they need a partner to encourage risk-taking (Paquette, 2004). This definition of father attachment emphasizes the role of exploration and play.

The activation relationship emphasizes sensitivity, though it is not when a child is distressed (Paquette, 2004). In the “activation relationship” theory, fathers sensitively push their children to test their boundaries, understanding what is safe and what would be too much for them such as climbing stairs on their own (Paquette & Bigras, 2010). The activation relationship also utilizes the role of exploration, which was a component of the attachment relationship described in Bowlby’s early work on attachment (Bowlby, 1969).

Paquette and Bigras (2010) questioned the use of the Strange Situation Procedure with fathers and subsequently developed the Risky Situation (RS) to measure the activation relationship. This assessment utilizes similar circumstances to the SSP (i.e., creating mild distress), but the focus is on how children utilize their parent for exploration and comfort in situations including a social risk, physical risk, and being forbidden from a risk. The premise of this alternative method is to isolate the dynamics from which fathers facilitate a secure attachment with their children through activating their children (i.e., encouraging exploration while functioning as a secure base). The goal is for the child to explore their environment actively, but respond and alter their behavior when their parents (mother or father) intervene for safety and seek comfort from their parent when distressed (Paquette & Bigras, 2010). Children can be classified as activated, over-activated, or under-activated. The authors found that children could be both secure (as measured through the SSP by assessing of reunion behaviors with caregivers) and activated (through the Risky Situation by

assessing how children explore unfamiliar stimuli with caregivers), indicating that these are two distinct aspects of a parent-child relationship in which activating the child is especially prevalent within the father-child dynamic (Paquette & Bigras, 2010). The Risky Situation, as an alternative measure of father-child attachment, highlights that there may be two different ways in which either parent interacts with their children, that which is measured through the SSP and the other as measured by the Risky Situation.

This measure has been utilized with mothers as well, attempting to address whether mothers and fathers encourage exploration in varying amounts. There were no significant differences between mothers and fathers in this study, but the authors suggested many other differences in the ways in which mothers and fathers engaged with their children in the activation scenario (Paquette & Bigras, 2010). One such difference was that fathers encouraged greater risk-taking, which could be a useful distinction in future studies (Paquette & Bigras, 2010). Understanding such behaviors as the encouragement of risk-taking is an important element of exploration. Currently, there are few studies highlighting the activation relationship and its' potential factors. The SSP and the Risky Situation are completely different assessments and while many studies have compared mothers and fathers using the SSP, more research studies need to be conducted on the Risky Situation, or other explorations of the activation relationship. Then research can better characterize not just behaviors of the activation relationship,

but areas of potential differences between mothers and fathers in that relationship.

In summary, the activation relationship may be an accurate description to address the differences in mother and father attachment. It appears to be the best attempt to date at clearly defining the father attachment relationship as distinct from mother attachment. The question remains though, whether the activation relationship is a more specific description of attachment between father and child or if it is different from the attachment relationship as Bowlby (1969) described. That is, can exploration be a cornerstone of the father-child relationship or is it a piece of the attachment relationship that is used regardless of the caregiver.

Summary

To summarize, the activation relationship is a specific construct that has addressed exploration/play research in father-child attachment. With inconsistent findings of father-child attachment through the use of the SSP, research studies have explored the concept of play sensitivity and have found that it appears key to the father-child attachment relationship. Similarly, the “activation relationship” is a more specific attempt at defining the father-child attachment relationship in which play sensitivity is a component.

John and Halliburton (2010) argue that the inconsistencies in the research might stem from a lack of observational methodologies that were designed and validated with fathers. However, without understanding how father attachment

should be defined, it remains difficult to create an observational measure that accurately reflects the concept. It is unclear whether these observed differences occur because infants come to expect different interactions from each parent and whether those differences exist because of socially-accepted gender roles of mothers' and fathers' parenting behaviors, e.g., a father wrestling with his child versus a mother changing her child (Lamb, 1997b).

Parental Behavior and Gender Roles

A related issue in the father attachment literature concerns whether any observed differences between mother and father-child relationships stem from the gender-based roles that each parent assumes. Lamb (1997b) suggested that it is a potential explanation as to why children engage in different activities with each parent. That is, perhaps the attachment relationship is not different, but due to assumed gender roles, men and women interact with their children differently, and thus the relationships appear qualitatively different. Thus, children come to expect different interactions from each parent and are thus more comfortable (i.e., secure) when parents respond as expected.

While fathers and mothers interact similarly in some domains (e.g., responsiveness), there are other domains such as play and caregiving in which their behaviors differ. For example, analyses that have explored a child's use of their mothers as a secure base have focused on the child's proximity-seeking behaviors, physical contact with mother, and reuniting behaviors (e.g., Posada et

al., 2013). A father's role in his child's exploration differs as research highlights how fathers take a more active role in encouraging exploration, such as "activating" their children, than do mothers (Paquette & Bigras, 2010). That is, when asked by researchers to not intervene unless the child was at risk of harm, interactions in play with fathers result in children who challenge their limits safely and explore more often than in play with mothers (Paquette & Bigras, 2010). Also, mothers engage in more soothing and predictable behaviors during changing, feeding, etc., whereas fathers engage in caregiving activities much like they engage in play; they stimulate and excite their infants by rough or active engagement (Clarke-Stewart, 1978).

Dual-Parent Household Attachments

The concept of father attachment, as well as its relation to mother attachment, might be best understood by looking at two models of attachment in dual-parent households.

One model is the "hierarchy model" in which mothers are viewed as the primary caregiver and fathers are viewed as the secondary attachment figure (Lamb & Lewis, 2010). In fact, Ainsworth (1979) mentioned that it was not possible for an infant to have many attachment figures. This model would suggest that mothers, still often the primary caregiver, would be utilized for all aspects of the attachment relationship more than fathers; however, research on long term attachment to both parents has shown otherwise.

A second model, the “dual-primary attachment figure model”, has been proposed by Sir Richard Bowlby. In this model, both mother and father can serve as an equally important caregiver, each engaging in a different ratio of attachment behaviors to exploratory behaviors (soothing : exploration) (Newland & Coyl, 2010). While both parents can function as a secure base and create a secure attachment, the differences discussed in this literature center around how they each function as a secure base within a secure attachment relationship. Research in the realm of father attachment suggests that the father-child relationship emphasizes play and exploration over soothing behaviors as observed in the SSP (e.g., Newland and Coyl, 2010). Thus, according to the dual-primary attachment figure model (see Figure 1), there are two attachment figures, each equally important, although one is utilized as a secure base for comfort and the other for exploration (Newland & Coyl, 2010).

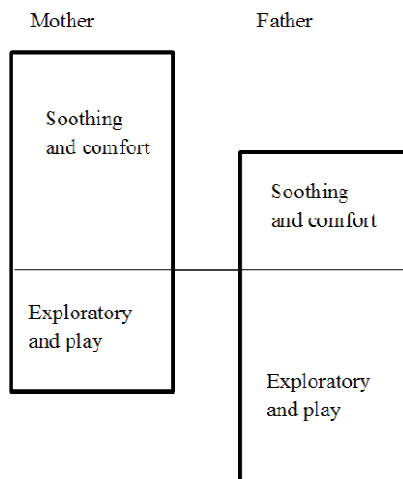


Figure 1. This figure shows the proportion of different parenting behaviors (caregiving and exploration) that mothers and fathers engage in as described in the dual primary attachment figure model.

This is further supported by a test of the hierarchy model that found while toddlers utilized their primary caregivers when distressed (which is typically the mother), when they were not distressed they had no preference (Umemura, Jacobvitz, Messina & Hazen, 2013). If the primary caregiver is not always the preferred caregiver, this might suggest there are different times when each caregiver may be preferred. The dual primary attachment figure model supports children's preference of the primary caregiver, when needing comfort, and no observed preference at others, when the child's attachment system is not activated and they want exploration. Each caregiver in a dual parent household has a uniquely important function. This has implications for not only how father attachment is investigated, but also how it is defined.

Summary and Purpose of Study

Research studies have explored the significance of the father-child relationship and have attempted to more clearly define father-child attachment, especially in terms of distinguishing it from the mother-child attachment relationship. Studies using the SSP have found that the strength of the attachment relationship between fathers and their infants is not as strong (in terms effect size) as for the mother-child relationship when each is being utilized as a secure base for comfort. In other words, when describing the attachment relationship as a function of sensitivity of the parent to the child when the child is distressed, children are found to be more securely attached to their mothers than

their fathers. Other measurements of the father-child relationship, however, suggest that it is through serving as a secure base during exploration/play and challenging children physically and mentally during such play interactions (i.e., the “activation relationship”) that fathers establish themselves as an attachment figure with their young child. That is, fathers might be an attachment figure more because of their involvement in play and physical activities with their children, as opposed to comforting and soothing their children in times of distress. Thus the “dual primary attachment figure model” may be a better fit for conceptualizing the mother versus father attachment relationship; i.e., mothers respond proportionally more in times of crisis and distress with soothing behaviors (compared to how often they engage their children in physically-stimulating play behaviors), while fathers spend more time engaging their child in exploratory play compared to soothing behaviors.

The purpose of the current exploratory study was, in general, to test the dual primary attachment figure model by investigating these proposed differences between mother-child attachment versus father-child attachment with an archival data set of young adult females. It was hypothesized that: 1) mothers’ caregiving scores would be different from their exploration scores; 2) fathers’ caregiving scores would be different from their exploration scores; 3) mothers’ scores would differ from fathers’ on measures of involvement in “exploratory” activities; and 4) mothers’ scores would differ from fathers’ on measures of caregiving. Last, as a test of the dual primary attachment figure model, it was

hypothesized that mother attachment would be significantly related to mother caregiving (vs. mother exploration), while father attachment would be significantly related to father exploration (vs. father caregiving).

CHAPTER TWO

METHODS

Participants

Two hundred and twenty-four females (18 to 28 years of age) from undergraduate psychology and human development classes at a southwestern university participated in this study. Forty-seven participants were omitted from the analyses because they reported on a father or mother who had not been present in the home some or all of their early childhood or adolescence. The remaining 177 participants, all of whom reported growing up with a mother and father in the home, were: 54.2% Hispanic, 27.1% Caucasian, 6.8% Asian, 5.6% multiethnic/biracial, 3.4% African-American, and 2.8% other. Of the participants who knew the highest level of their parent's education, 53.7% of fathers and 45.8% of mothers had a high school education or less while 30.5% of fathers and 35.6% of mothers had some college or trade school. Lastly, a total of 13.5% of fathers and 17.5% of mothers had achieved a B.A. or higher. Extra course credit was awarded for participation.

Measures

A pen-and-paper questionnaire comprised of the following scales was administered to participants. The order of information provided was such demographics about parents was first, followed by the involvement scale for

mothers and fathers, the attachment scale for mothers and fathers, then lastly the demographic information of participant.

Mother/Father Involvement

The Father Involvement Scale (Finley & Schwartz, 2004) was used to measure daughters' perception of their fathers' degree of involvement with them during childhood across 20 different domains (see Appendix A). The Father Involvement Scale is a 20-item questionnaire that asks participants to rate how involved their father was on a Likert-scale of 1 (not at all involved) to 5 (very involved) in various aspects of life such as companionship, advising, emotional, and intellectual development. Possible scores for these 20 different domains ranged from 20 to 100 after summing all ratings. The scale was rephrased for participants to also complete on their mother's involvement by changing the word "father" to "mother."

Mother/Father Attachment

The mother scale from the Inventory of Parent and Peer Attachment (IPPA) (Armsden & Greensberg, 1984) was used to assess the attachment to mother (and was rephrased for participants to also complete on their father) (see Appendix B). The IPPA consists of a 25 item questionnaire that includes three subscales: Trust (i.e., the amount of trust, understanding and respect between partners), Alienation (i.e., the amount of anger and interpersonal isolation between partners), and Communication (the amount of communication between parent and child) using a Likert-scale (1=almost never or never true, 5=almost

always or always true). There are 10 items in the Trust subscale including statements such as “my parents respect my feelings,” eight items comprising the communication subscale including statements such as “I feel it’s no use letting my feelings show,” and seven items comprising the alienation subscale include such items as “talking over my problems with my parents makes me feel ashamed or foolish.” The item-total correlations for the measure range from .53 to .80 and it has a test-retest reliability of .93 (Armsden & Greenberg, 1987).

Demographic items

Demographic items were also included, which asked questions about age, gender, ethnicity, who participant grew up with, and parents’ education (see Appendix C).

Procedure

Participants were recruited in undergraduate courses and asked to complete a packet that included the aforementioned measures. Packets were collected one week after distributing them and participants were thanked and compensated for their participation.

CHAPTER THREE

RESULTS

Preliminary Analysis

An exploratory factor analysis was conducted on the items from the mother and father involvement scales which resulted in 5 unique factors for each parent (Appendices D and E). Only the first and third factors for mothers and the first and third factors for fathers were comprised of items that characterized “caregiving” and “exploration”. These two factors for mothers were then superimposed to be used for fathers as they best reflected the categories of “caregiving” and “exploration”. This resulted in four distinct variables which were then used for analysis, i.e., mother caregiving, mother exploration, father caregiving, and father exploration (see Table 1).

These resulting factors are consistent with the research literature. Bowlby (1969), for example, emphasized protection and caregiving in the attachment relationship, as was found in the caregiving factor. Further, it has been argued that exploration is encouraged by rough and tumble play, which can facilitate not only physical development, but the reading of social cues (social development) and emotional regulation (Paquette, 2004). This is consistent with items identified as the exploration factor.

Table 1 Items Comprising “Caregiving” and “Exploration” Factors for Mothers and Fathers

“Caregiving”	“Exploration”
1. Was involved in being protective	1. Was involved in sharing activities/interests
2. Was involved in discipline	2. Was involved in companionship
3. Was involved in caregiving	3. Was involved in leisure, fun and play
4. Was involved in advising	4. Was involved in emotional development
	5. Was involved in social development
	6. Was involved in physical development

Four reliability tests were then conducted on these resulting factors. Means, standard deviations, and reliability data are in Appendix F. Cronbach’s alpha for the mother exploration factor was .90 and for mothers caregiving was .78. The exploration factor for fathers yielded a Cronbach’s alpha of .91 and for caregiving .78.

The data were then screened for outliers and an additional two participants were removed as their scores were greater than 3.5 z-score for mother exploration and mother caregiving. Secondly, because there were instances of skewness found for mother and father exploration and caregiving, all subsequent analyses were bootstrapped but results were the same as with the t-tests conducted.

Analyses

To test the first and second hypothesis, i.e., that mothers' and fathers' caregiving scores would be different from their exploration scores, a repeated measures t-test was conducted. The first hypothesis, which stated that mother caregiving scores would be different than their exploration scores, was significant, $t(165) = 7.67, p < .001$: not surprisingly, mother caregiving scores ($M = 4.52$) were higher than mother exploration scores ($M = 4.14$). The effect size was $r = .51$ (which corresponds to a large effect size). The second hypothesis, which stated that there would be differences between father caregiving scores and father exploration scores, was also significant, $t(165) = 9.74, p < .001$. Surprisingly, father exploration scores were lower ($M = 3.51$) than father caregiving ($M = 4.05$). The effect size was $r = .60$ (i.e., a large effect size).

To test the third and fourth hypotheses, a repeated measures t-test to compare mother exploration with father exploration and mother caregiving with father caregiving was conducted. The third hypothesis, which stated that there would be differences in caregiving scores between mothers and fathers, was significant, $t(165) = 7.14, p < .001$. As expected, mothers scored higher ($M = 4.52$) than fathers ($M = 4.05$). The effect size was $r = .49$, indicating a large effect size. The last hypothesis, which stated that exploration scores would differ between mothers and fathers, was also significant, $t(165) = 7.37, p < .001$. Surprisingly, mothers scored higher ($M = 4.14$) than fathers ($M = 3.51$). This analysis yielded large effect size, $r = .50$ (see Figure 2).

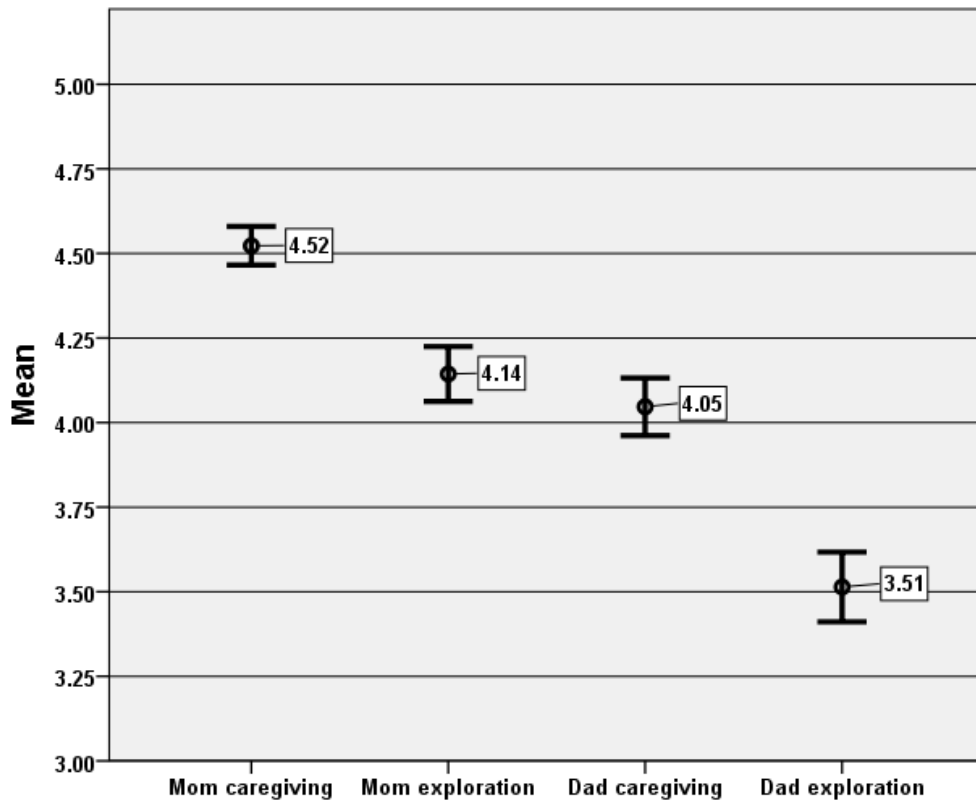


Figure 2. Mean Scores for Mother and Father Caregiving and Exploration.

The last hypothesis was that mother attachment would be significantly related to mother caregiving (vs. exploration) and father attachment would be significantly related to father exploration (vs. caregiving). To test this hypothesis, a Pearson r correlation was first conducted on mothers' and fathers' attachment and caregiving/exploration scores. All correlations were significant, indicating that attachment was positively and significantly correlated with caregiving and exploration for both mothers and fathers (see Table 2).

Table 2. Mother and Father Correlations Between Attachment Security, Exploration, and Caregiving

	Mother Attachment	Father Attachment
Mother:		
Caregiving	.51***	
Exploration	.77***	
Father:		
Caregiving		.68***
Exploration		.84***

* $p < .05$

** $p < .01$

*** $p < .001$

The correlations suggest strong relationships between attachment security and both caregiving and exploration, so subsequent analyses to further break down these relationships would be statistically redundant. However, we did calculate four bivariate scatter plots to illustrate the relationships between each variable and attachment, and indicating strong predictive relationships with attachment (see Appendix G). Father attachment and father caregiving had an $R^2 = .47$, explaining 47% of the variance of father attachment while father exploration had an $R^2 = .71$, explaining 71% of the variance of father attachment.

Mother attachment and this indicates an $R^2 = .25$, that mother caregiving explains 25% of the variance of mother attachment whereas mother exploration had an $R^2 = .59$, mother exploration explaining 50% of the variance of mother attachment.

To summarize, the results of this study yielded mixed results. The results of the t-tests suggest that mothers are more involved in caregiving than exploration, and are also more involved in caregiving than fathers. For fathers, these data suggest that they are more involved in caregiving activities than exploration, which is contrary to what was expected. The data also shows that fathers are not as involved in exploration as mothers are. In addition, the data suggest attachment security is significantly related to caregiving and exploration for both mothers and fathers. This is illustrated by highly significant correlations as well as scatter plots indicating stronger relationships between exploration and attachment for both mothers and fathers, though caregiving and exploration were both significant.

CHAPTER FOUR

DISCUSSION

Introduction

The purpose of this study was to examine how father attachment differs from mother attachment by utilizing the dual primary attachment figure model. This model has relatively strong support from the research literature on maternal caregiving (Schoppe-Sullivan, Kotila, Jia, Lang, & Bower, 2013) and father attachment/exploration studies (Grossmann et al., 2002; Grossmann et al., 2008). In general, the results of this study are consistent with research on traditional gender roles (mothers more involved in caregiving) as well as changing gender roles for fathers, more involved in caregiving than exploration/play, and mothers, in which exploration not caregiving most predicted variance in attachment. Secondly, the results partially support the dual primary attachment figure model.

Hypothesis One and Four

The first and fourth hypotheses both highlighted mothers' increased role in caregiving. The first hypothesis (i.e., mother caregiving scores would be different than their exploration scores) was supported in that mothers were found to be more involved in caregiving than exploration. The fourth hypothesis (i.e., mothers' caregiving scores would differ from fathers' caregiving scores) was also supported as mothers were found to be more involved in caregiving activities

than fathers. These findings are consistent with research studies on gender differences which describe mothers as being more involved in caregiving duties than exploration and play (Schoppe-Sullivan et al., 2013) and performing more child care duties than fathers (Kotila, Schoppe-Sullivan, & Kamp Dush, 2013).

Hypothesis Two

The second hypothesis (i.e., fathers' caregiving scores would differ from their exploration scores) was supported: fathers were found to be more involved in caregiving than exploration. This finding, while surprising, may be related to general trends today with more mothers working outside of the home. Studies suggest that when mothers work more hours outside the home, fathers take on more responsibilities of caregiving (NICHD Early Child Care Research Network, 2000; Raley, Bianchi, & Wang, 2012) and are more likely to have nontraditional gender role beliefs (Fischer & Anderson, 2012) (which has also been linked to increased caregiving in fathers, Schoppe-Sullivan et al., 2013).

Hypothesis Three

The third hypothesis (i.e., mothers and fathers would differ in their exploration scores) was also supported, but in an unexpected direction: mothers were found to be more involved in exploration than fathers. This finding is contrary to gender role research, which has suggested that fathers are much more involved in exploration and play than mothers (Grossmann et al., 2002). This finding may be related to the measure of exploration used in this study: items included "involvement in physical development" and "involvement in

leisure, fun and play” (which would be consistent with exploration), but also “involved with companionship” and “social development”. It may be that these latter items were interpreted by participants as related to the “socialization” quality of the parent-child relationship, and mothers have been shown to have higher engagement in the socialization of children compared to fathers (Schoppe-Sullivan et al., 2013). The item of “involvement in leisure, fun and play” may also have been too vague for participants because there are different types of play such as didactic play (in which mothers engage in more of) and rough-and-tumble play (in which fathers engage in more) (Paquette, 2004; Schoppe-Sullivan et al., 2013). Future studies could include more observational studies on father-child dyads to better distinguish specific items needed to assess father exploration/play as well as address the concept of atypical gender roles for mothers to explain a reason mothers were more involved in exploration.

Hypothesis Five

The last hypothesis (i.e., there would be significant relationships between mother attachment and mother caregiving, and father attachment and father exploration) was partially supported. Attachment status was positively correlated with both exploration and caregiving (for both parents. While contrary to the dual attachment model (which would suggest that it is mothers’ engagement in caregiving that facilitates a secure attachment relationship), these results suggest that perhaps mothers are involved in all aspects of raising children (as implicated at least in the current sample). For this sample, mothers appear to

engage in varied parenting behaviors with their children, which is supported by the research literature (Kotila, Schoppe-Sullivan, & Kamp Dush, 2013). Further, some research support for these results, i.e., mothers being more involved in caregiving and play than fathers (Planalp, Braungart-Rieker, Lickenbrock & Zentall, 2013) emphasizes mothers' role in both aspects of childcare. This would explain why both exploration and caregiving were so highly correlated and why bivariate analyses showed both as affecting the relationship.

One surprising finding was that exploration predicts more variance mother attachment than was caregiving, which could be explained in part by the items used for the exploration variable. With items such as "involvement in physical, social," and "emotional development", it is possible that mothers can maintain a positive affect in all of these areas, necessary for facilitating a secure attachment, just as fathers do (Sroufe & Waters, 1997). Similarly, mutual enjoyment is an important component of attachment and often facilitated through caregiving routines (Bretherton, 1992) of which could also take place during involvement in such items as "leisure/fun/play" or "shared interested/activities". Thus, while appearing to emphasize exploration, these items could be based on such attachment supporting parental behaviors.

Results for fathers were similar in that both caregiving and exploration were strongly correlated with attachment, but the scatterplots indicated that exploration predicts more variance in the attachment relationship. This is consistent with the dual primary attachment figure model which suggests that it is

through fathers' involvement in exploration/play activities that they facilitate a secure attachment (Newland & Coyl, 2010). This can be explained by numerous studies emphasizing that fathers can still serve as a secure base when their children's attachment system is not activated, i.e., when they are looking for a play companion or partner (Paquette, 2004), and that it is through sensitivity during play that secure attachment with fathers may be formed (Grossmann et al., 2002). Finally, there is support to show that not only is involvement related to attachment security (Goodsell & Meldrum, 2010), but that fathers' stimulating behaviors (when intended for play) have been linked to secure father-child attachment (Hazen, McFarland, Jacobvitz, & Boyd-Soisson, 2010).

Exploration with father is a key security-promoting behavior (Brown, Mangelsdorf, & Neff, 2012) in which fathers encourage risk-taking in ways that comforting during times of distress does not allow (Paquette & Bigras, 2010). Fathers uniquely challenge their children this way, serving as a play companion that can help their child learn about the world around them (Bowlby, 1969; Newland & Coyl, 2010; Paquette, 2004). Not only does involvement in activities relate to attachment security (Goodsell & Meldrum, 2010), but children appear to expect such stimulating behaviors from fathers and not mothers (Hazen et al., 2010; Lamb, 1997b). Since there has been ambiguity in the research regarding this construct, achieving a better understanding of what exploration looks like is important so that researchers can investigate and create better assessments of father attachment.

Our findings, as well as previous research literature, support the need to incorporate father exploration into assessments of father attachment (Bretherton, 2010; Grossmann et al., 2008; John & Halliburton, 2010; Paquette & Bigras, 2010). In our study, items such as “involved in play and activities”, “companionship”, and “physical and social development” comprised the exploration measure. Previous research has investigated sensitivity in play (Grossmann et al., 2008) and the ability to activate a child (Paquette & Bigras, 2010), but has not to date included such items as companionship, and physical and social development, similarly important aspects of exploration. While these items, (e.g., social development) have been correlated with father involvement and play (Paquette, 2004), they have not been included in assessments of father exploration. Currently, the SSP remains the primary assessment of attachment, with many current studies not including the full range of father behaviors related to exploration and involvement (Newland & Coyl, 2010).

Summary

Regardless of gender, parents in this dataset were overall more involved in caregiving than exploration. Also regardless of gender, both caregiving and exploration was correlated with attachment. Lastly, both mother and father attachment was more strongly predicted by exploration than caregiving. Given the research literature on exploration, this relationship is likely due to high levels of involvement in items such as play, companionship, and physical development.

Our results suggest both parents likely engage in these activities, perhaps facilitating mutual enjoyment and a positive affect. Exploration may be more strongly predictive of father attachment though because children may expect such behaviors more from their fathers than their mothers. This finding for fathers lends partial support to the dual primary attachment figure model and adds to other literature on the importance of and need to investigate father attachment further so that future assessments can better address the relation between father attachment and exploration.

Limitations

A few limitations could include the measure of exploration/caregiving created in this study and also limited generalizability. The items included in the exploration measure were involved in leisure, fun, play, shared activities/interests, involved in companionship, physical development, social development, and emotional development. These items may have been too ambiguous (i.e., interpreted differently for each participant) and/or linked too closely with other parenting behaviors, such as the concept of socialization, and mothers tend to have higher involvement in these activities than fathers do (Schoppe-Sullivan et al., 2013). Items for caregiving (e.g., involved in advising, discipline, caregiving, and protection) could similarly be viewed as ambiguous.

Also, this study did not explore earner status of parents in the home. This is important for generalizability and the conclusions that can be drawn from this data. Understanding the work-related responsibilities of each parent outside the

home can help shed light on the traditional gender differences for mothers and fathers, i.e., mothers engaging in more caregiving activities. For example, when fathers work less hours and mothers work more, fathers exhibit more caregiving (NICHD Early Child Care Research Network, 2000). Thus, items such as earner status and hours worked could be important to understanding mother vs. father involvement in caregiving.

Lastly, our studied was predominantly identified as Hispanic. There is some research to suggest that Latino, Hispanic, or immigrant classification of parents (mothers and fathers) could affect not only the gender beliefs, but levels of involvement in caregiving behaviors especially (D'Angelo, Palacios, & Chase-Lansdale, 2012). This emphasizes the need to study the father-child attachment relationship in a broader range of ethnic groups. This could have impacted findings in this study, but further investigation is needed.

Future Directions and Implications

While not the focus of this study, observational studies could further explore what “exploration” looks like in the father-child relationship. No studies have researched fathers in the way they have with the mother-child relationship, i.e., follow them in an observational study and determine what exact behaviors exchanged through their interactions with their children. Studies that have included home observations of fathers and their children have lacked a focus on “activation” even though they have made strides in assessing paternal sensitivity (as assessed through three distinct codes of videotaped play sessions) (e.g.,

NICHD Early Child Care Research Network, 2000). However, it is necessary to observe with better clarity the ways in which fathers serve as a secure base (sensitivity) while encouraging exploration. Without studies to identify the features of exploration in father-child relationships, especially in an observational study, it will remain difficult to draw conclusions as to what exploration looks like and how it should be assessed in future research.

In conclusion, assessments of father attachment could reflect the importance of exploration, rather than relying solely on the SSP. In turn, these findings may help us to better understand the unique ways mothers and fathers employ or facilitate a secure attachment with their child. Overall, this study suggests much more work needs to be done in studying father and child attachment.

APPENDIX A
FATHER INVOLVEMENT SCALE

How involved was your father in the following aspects of your life and development?

(5. Always involved, 4. Often involved, 3. Sometimes involved, 2. Rarely involved, 1. Never involved)

- ____ Intellectual development
- ____ Emotional development
- ____ Social development
- ____ Ethical/moral development
- ____ Spiritual development
- ____ Physical development
- ____ Career development
- ____ Developing responsibility
- ____ Developing independence
- ____ Developing competence
- ____ Leisure, fun, play
- ____ Providing income
- ____ Sharing activities/interests
- ____ Mentoring/teaching
- ____ Caregiving
- ____ Being protective
- ____ Advising
- ____ Discipline
- ____ School/homework
- ____ Companionship

(Finley & Schwartz, 2004)

APPENDIX B
INVENTORY OF PARENT AND PEER ATTACHMENT

Instructions: Please carefully read each item below and choose the best response. Mark its corresponding number in the line provided.

1.Almost never or never true, 2.Not very often true, 3.Sometimes true, 4.Often true, 5.Almost always or always true.

1. My mother respected my feelings._____
2. I felt my mother did a good job as my mother. _____
3. I wish I had had a different mother. _____
4. My mother accepted me as I was. _____
5. I liked to get my mother's point of view on things I was concerned about. _____
6. I felt it was no use letting my feelings show around my mother. _____
7. My mother was able to tell when I was upset about something. _____
8. Talking over my problems with my mother made me feel ashamed or foolish. _____
9. My mother expected too much from me. _____
10. I got upset easily around my mother. _____
11. I got upset a lot more than my mother knew about. _____
12. When we discussed things, my mother cared about my point of view. _____
13. My mother trusted my judgement. _____
14. My mother had her own problems, so I didn't bother her with mine. _____
15. My mother helped me to understand myself better.
16. I told my mother about my problems and troubles.
17. I felt angry with my mother. _____

18. I didn't get much attention from my mother. _____
19. My mother helped me to talk about my difficulties. _____
20. My mother understood me. _____
21. When I got angry about something, my mother tried to be understanding. _____
22. I trusted my mother. _____
23. My mother didn't understand what I was going through. _____
24. I could count on my mother when I needed to get something off my chest. _____
25. If my mother knew something was bothering me, she asked me about it. _____

(Armsden & Greensberg, 1984)

APPENDIX C
PARENTAL INFORMATION
AND DEMOGRAPHICS

1) Which best describes the mother/mother figure you grew up with in early childhood?

_____ biological mother

_____ stepmother

_____ mother figure

_____ adopted mother

_____ foster mother

_____ no mother or mother figure present in the home

_____ other: _____

2) Which best describes the father/father figure you grew up with in early childhood?

_____ biological father

_____ stepfather

_____ father figure

_____ adopted father

_____ foster father

_____ no father or father figure present in the home

_____ other: _____

3) Which best describes the mother/mother figure you grew up with in adolescence?

_____ biological mother

_____ stepmother

- _____ mother figure
- _____ adopted mother
- _____ foster mother
- _____ no mother or mother figure present in the home
- _____ other _____

4) Which best describes the father/father figure you grew up with in adolescence?

- _____ biological father
- _____ stepfather
- _____ father figure
- _____ adopted father
- _____ foster father
- _____ no father or father figure present in the home
- _____ other _____

5) Which mother/mother figure will you be answering questions about?

- _____ in early childhood
- _____ in adolescence

Which father/father figure will you be answering questions about?

- _____ in early childhood
- _____ in adolescence

Basic Information

- 1) Your age: _____ yrs

- 2) Your sex: _____ male _____ female

- 3) Your ethnicity: _____ Hispanic _____ African-American _____
Asian _____ Caucasian _____ other: _____

- 4) The highest level of education your mother completed
_____ did not complete high school
_____ high school graduate
_____ some college or trade school
_____ graduated with a Bachelor's degree
_____ some graduate school
_____ graduate or professional degree

- 5) The highest level of education your father completed
_____ did not complete high school
_____ high school graduate
_____ some college or trade school
_____ graduated with a Bachelor's degree
_____ some graduate school
_____ graduate or professional degree

(Created by researcher)

APPENDIX D
MOTHER FACTORS

	Factor				
	1	2	3	4	5
Was companionship	.856	.011	.093	.053	-.049
Was sharing activities/interests	.759	-.011	-.032	-.017	.195
Was leisure, fun, play	.599	.153	-.104	-.222	-.020
Was emotional dev.	.571	-.046	.387	-.155	-.108
Was social dev.	.483	.182	.235	-.115	.051
Was physical dev.	.329	.315	-.062	-.287	.015
Was developing independence	.034	.824	-.043	.032	.071
Was developing competence	.096	.704	.030	-.221	-.034
Was developing responsibility	.120	.501	.176	.183	.352
Was spiritual dev.	-.023	.315	.145	-.259	.062
Was being protective	.107	-.190	.660	-.158	.062
Was discipline	-.137	.310	.581	-.036	-.025
Was caregiving	.148	-.010	.523	-.058	.129
Was advising	.353	.058	.481	-.056	.013

Was school/homework	-.043	-.023	.078	-.856	.008
Was mentoring/teaching	.104	.071	.070	-.636	.141
Was intellectual dev.	.261	.008	.065	-.465	.147
Was providing income	-.036	-.014	-.010	-.024	.466
Was career dev.	.164	.159	.042	-.283	.388
Was ethical/moral dev.	.185	.254	.192	-.088	.334

APPENDIX E
FATHER FACTORS

	Factor				
	1	2	3	4	5
Was sharing activities/interests	.915	-.072	-.061	.148	.117
Was leisure, fun, play	.852	-.059	-.073	-.035	-.101
Was companionship	.731	.027	.139	.050	-.058
Was emotional dev.	.700	.159	.071	-.025	-.057
Was social dev.	.598	.191	.023	.009	-.067
Was caregiving	.529	.178	.186	.008	.028
Was physical dev.	.452	.054	.068	.245	.033
Was mentoring/teaching	.424	.244	.026	.334	.008
Was advising	.395	.145	.168	.287	-.023
Was spiritual dev.	.238	.093	.179	.096	-.229
Was developing independence	.207	.752	-.139	.100	-.146
Was developing responsibility	-.023	.721	.226	.062	-.002
Was developing competence	.136	.575	-.120	.392	-.141

Was providing income	.130	.344	.286	-.080	.174
Was discipline	-.113	.055	.623	.145	-.052
Was being protective	.302	-.088	.591	.016	-.006
Was school/homework	.054	-.084	.091	.798	-.162
Was intellectual dev.	.253	.096	.114	.611	.109
Was career dev.	.010	.324	.053	.546	.171
Was ethical/moral dev.	.175	.255	.416	.016	-.467

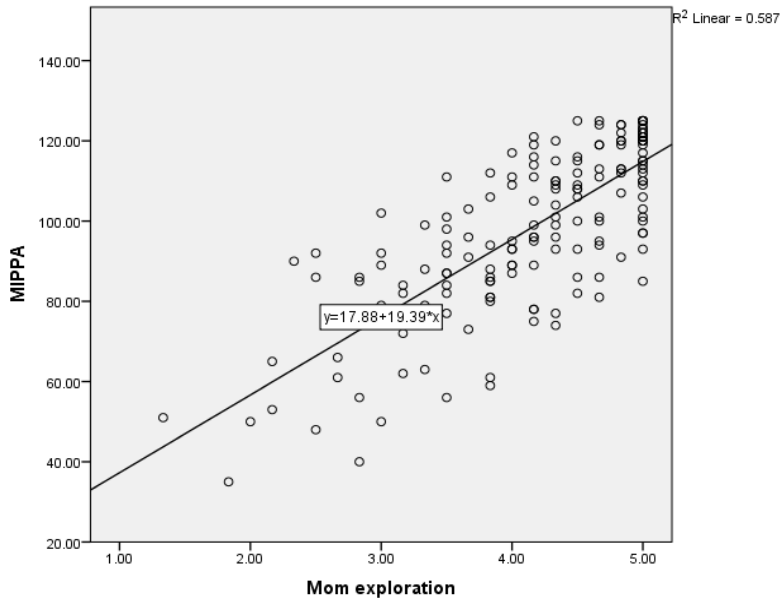
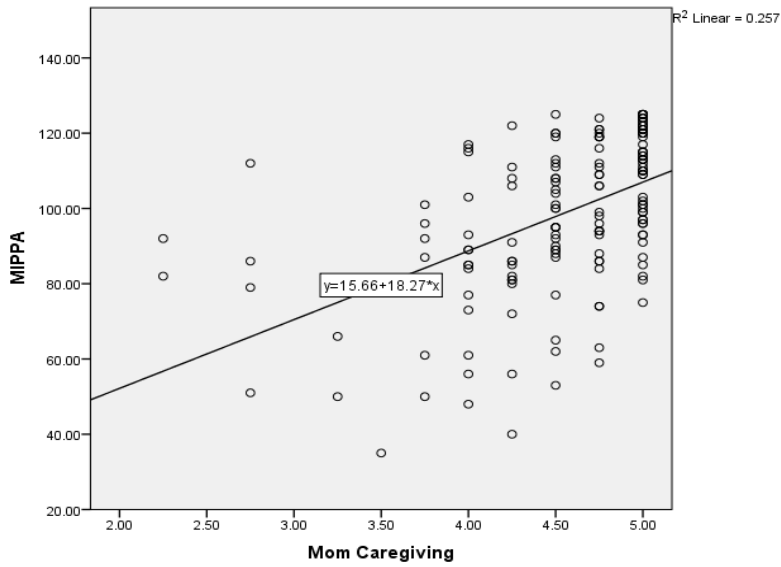
APPENDIX F
MEANS, STANDARD DEVIATION
AND RELIABILITY DATA

		<u>Corrected</u> <u>item total</u>	<u>Alpha</u> <u>if item</u> <u>deleted</u>		<u>Corrected</u> <u>item total</u>	<u>Alpha</u> <u>if item</u> <u>deleted</u>
<u>Exploration</u>						
Was emotional dev.	4.29 (.94)	.732	.875	3.32 (1.19)	.774	.891
Was social dev.	4.22 (.93)	.746	.873	3.54 (1.11)	.713	.900
Was physical dev.	4.04 (1.14)	.626	.892	3.28 (1.28)	.648	.909
Was leisure, fun, play	3.91 (1.14)	.723	.876	3.81 (1.20)	.724	.898
Was sharing activities/interest	3.97 (1.07)	.750	.871	3.53 (1.32)	.835	.881
Was companionship	4.32 (1.02)	.752	.871	3.57 (1.29)	.816	.884
<u>Caregiving</u>						
Was caregiving	4.73 (.64)	.598	.729	3.85 (1.17)	.601	.708
Was advising	4.39 (.93)	.599	.711	3.73 (1.25)	.643	.684
Was being protective	4.56 (.88)	.646	.685	4.42 (.969)	.592	.718
Was discipline	4.27 (.98)	.522	.759	4.11 (1.07)	.490	.763

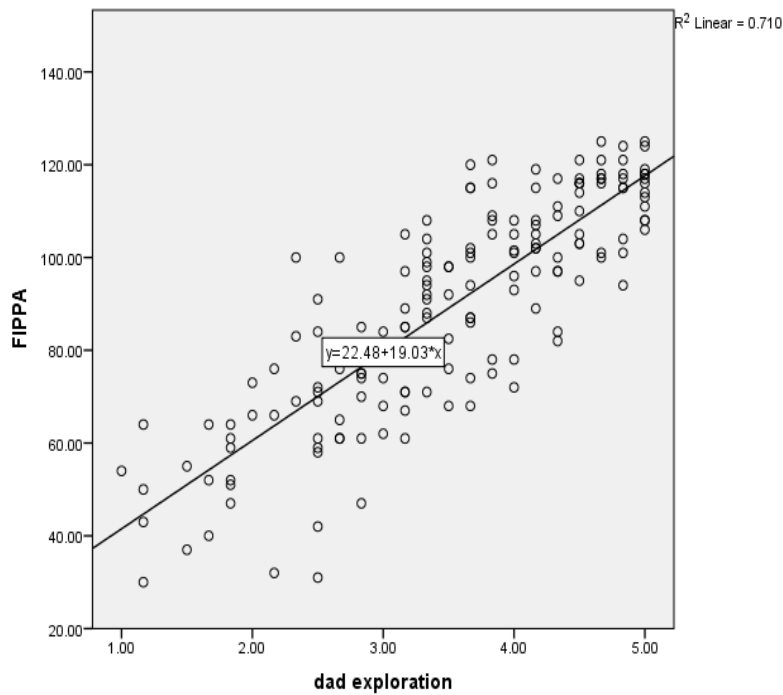
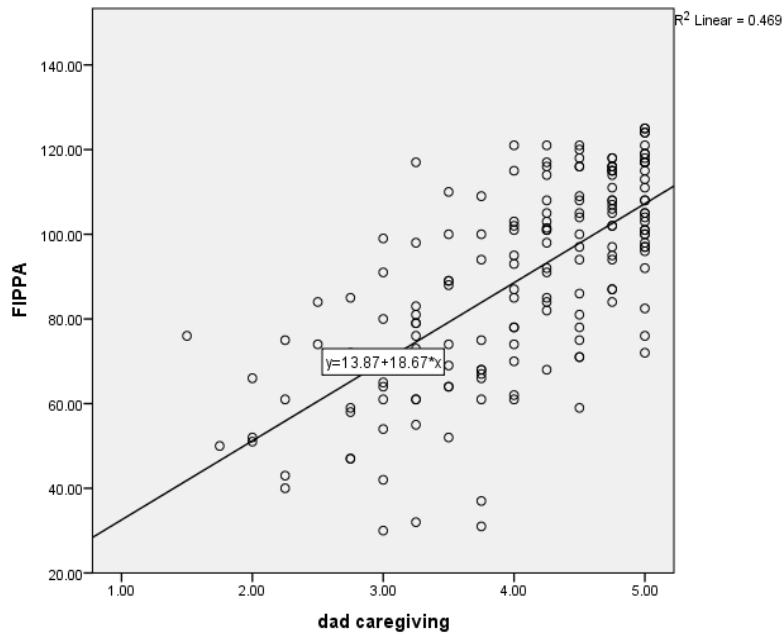
Mother

Father

APPENDIX G
BIVARIATE SCATTERPLOTS



MIPPA represents mother attachment and this indicates an $R^2 = .25$, that mother caregiving explains 25% of the variance of mother attachment whereas mother exploration had an $R^2 = .59$, mother exploration explaining 50% of the variance of mother attachment.



FIPPA represents father attachment and father caregiving had an $R^2 = .47$, explaining 47% of the variance of father attachment while father exploration had an $R^2 = .71$, explaining 71% of the variance of father attachment.

REFERENCES

- Ainsworth, M. S. (1979). Infant-mother attachment. *American Psychologist*, 34(10), 932-937.
- Ainsworth, M. D. S., Blehar, M. C., Waters, E., & Wall, S. (1978). *Patterns of attachment: A psychological study of the strange situation*. Hillsdale, NJ; Erlbaum.
- Armsden, G. C. & Greenberg, M. T. (1987). The inventory of parent and peer attachment: Individual differences and their relationship to psychological well-being in adolescence. *Journal of Youth and Adolescence*, 16(5).
- Bowlby, J. (1969) *Attachment*. NY: Basic Books.
- Bowlby, J. (1977). The making and breaking of affectional bonds: I. Aetiology and psychopathology in the light of attachment theory. *British Journal of Psychiatry*, 130, 201-210.
- Bretherton, I. (1992). The origins of attachment theory: John Bowlby and Mary Ainsworth. *Developmental Psychology*, 28(5), 759-775.
- Bretherton, I. (2010). Fathers in attachment theory and research: A review. *Early Child Development and Care*, 180(1&2), 9-23.
- Brown, G. L., Mangelsdorf, S. C., & Neff, C. (2012). Father involvement, paternal sensitivity, and father-child attachment security in the first 3 years. *Journal of Family Psychology*, 26(3), 421-430.

- Cassidy, J. (2008). The nature of the child's ties. In Cassidy J. & Shaver P. R. (2) *Handbook of attachment: Theory, research, and clinical applications* (pp. 3-22). New York: Guilford Publications.
- Clarke-Stewart, K., (1978). And daddy makes three: The father's impact on mother and young child. *Child Development, 49*(2). 466-478.
- Condon, J. T., Corkindale, C. J., & Boyce, P. (2008). Assessment of postnatal paternal-infant attachment: Development of a questionnaire instrument. *Journal of Reproductive and Infant Psychology, 26*(3), 195-210.
- Davies, D. (2011). *Child development practitioners guide*. New York: Guilford.
- Finley, G. E. & Schwartz, S. J. (2004). The father involvement and nurturant fathering scales: Retrospective measures for adolescent and adult children. *Educational and Psychological Measurement, 64*(1), 143-164.
- Fischer, J. & Anderson, V. N. (2012). Gender role attitudes and characteristics of stay-at-home and employed fathers. *Psychology of Men and Masculinity, 13*(1), 16-31.
- Flouri, E. (2005). *Fathering & Child Outcomes*. England. John Wiley & Sons Ltd.
- Freeman, H., Newland, L., & Coyl, D. (2010). New directions in father attachment. *Early Child Development and Care, 180*(1&2), 1-8.
- Grossmann, K, Grossmann, K. E., Kindler, H., & Zimmermann, P. (2008). A wider view of attachment and exploration: The influence of mothers and fathers on the development of psychological security from infancy to young adulthood. In Cassidy J. & Shaver P. R. (2) *Handbook of*

attachment: Theory, research, and clinical applications (pp. 857-874). New York: Guilford Publications.

Grossmann, K., Grossmann, K. E., Fremmer-Bombik, E.,.....Zimmermann, P.

(2002). The uniqueness of the child-father attachment relationship:

Fathers' sensitive and challenging play as a pivotal variable in a 16-year longitudinal study. Malden, MA: Blackwell Publishers Ltd.

John, A. & Halliburton, A. L. (2010). Q methodology to assess child-father attachment. *Early Child Development and Care*, 180(1&2), 71-85.

Lamb, M. E., (1982). Paternal influences on early socio-emotional development.

Journal of Child Psychology and Psychiatry, 23(2), p. 185-190.

Lamb, M. E., (1997a). Fathers and child development: An introductory overview and guide. In Lamb, M. E. (3), *The role of the father in child development* (pp. 1-18). New York: John Wiley & Sons.

Lamb, M. E., (1997b). The development of father-infant relationships. In Lamb, M. E. (3), *The role of the father in child development* (pp. 104-120). New York: John Wiley & Sons.

Lamb, M. E., & Lewis, C. (2010). The development and significance of father-child relationships in two-parent families. In Lamb, M. E. (5) *The role of the father in child development* (pp. 94-153). Hoboken: John Wiley & Sons.

Lucassen, N., Tharner, A., VanIjzendoorn, M. H., Bakermans-Kranenburg, M. J., Volling, B. L., Verhulst, F. C..... Tiemeier, H. (2011). The association between paternal sensitivity and infant-father attachment security: A meta-

- analysis of three decades of research. *Journal of Family Psychology*, 25(6), 986-992.
- Miljkovitch, R., Moran, G., Roy, C., Jaunin, L., Forcada-Guex, M., Pierrehumbert, B.....Borghini, A. (2013). Maternal interactive behaviour as a predictor of preschoolers' attachment representations among full term and premature samples. *Early Human Development*, 89(5). 349-354.
- Newland, L. A., & Coyl, D. D. (2010). Fathers' role as attachment figures: An interview with Sir Richard Bowlby. *Early Child Development and Care*, 180(1-2), 25-32.
- Newland, L. A., Freeman, H. S., & Coyl, D. D. (2011). *Emerging Topics On Father Attachment: Considerations in theory, context and development*. New York: NY, Routledge.
- NICHD Early Child Care Research Network (2000). Factors associated with fathers' caregiving activities and sensitivity with young children. *Journal of Family Psychology*, 14(2), 200-219.
- Paquette, D. (2004). Theorizing the father-child relationship: Mechanisms and developmental outcomes. *Human Development*, 47, 193-219.
- Paquette, D. & Bigras, M. (2010). The risky situation: A procedure for assessing the father-child activation relationship. *Early Child Development and Care*. 180(1&2), 33-50.
- Parke, R. D. & Sawin, D. B. (1976). A father's role in infancy: A re-evaluation. *The Family Coordinator*, 25(4), 365-371.

- Parke, R. D. & Stearns, P. N., (1993). Fathers and child rearing. In Elder Jr., G. H., Modell, J., & Parke, R. D. *Children in time and place: Developmental and historical insights*. (pp. 147-170). New York: Cambridge University Press.
- Pleck, J. H. (1997). Paternal involvement: Levels, sources, and consequences. In Lamb, M. E. (3), *The role of the father in child development* (pp. 67-103).
- Pleck, E. H., & Pleck, J. H., (1997). Fatherhood ideals in the United States: Historical dimensions. In Lamb, M. E. (3), *The role of the father in child development* (pp. 33-48). New York: John Wiley & Sons.
- Posada, G., Lu, T., Trumbell, J., Kaloustian, G., Trudel, M., Plata, S. J.....Lay, K. (2013). Is the secure base phenomenon evident here, there, and anywhere? A cross-cultural study of child behavior and experts' definitions. *Child Development*, 84(6), 1896-1905.
- Rotundo, E. A., (1985). American fatherhood: A historical perspective. *The American Behavioral Scientist* 29(1), 7-25.
- Russell, G. & Radojevic, M. (1992). The changing role of fathers? Current understandings and future directions for research and practice. *Infant Mental Health Journal*, 13(4), 296-311.
- Schoppe-Sullivan, S. J., Kotila, L., Jia, R., Lang, S. N., & Bower, D. J. (2013). Comparisons of levels and predictors of mothers' and fathers' engagement with their preschool aged children. *Early Child Development and Care*, 183(3-4), 498-514.

- Sroufe, A. (2005). Attachment and development: A prospective, longitudinal study from birth to adulthood. *Attachment and Human Development, 7*(4), p. 349-367.
- Sroufe, L. A., & Waters, E. (1977). Attachment as an organizational construct. *Child Development, 48*, 1184-1199.
- Tamis-LeMonda, C. S., (2004). Conceptualizing fathers; roles: Playmates and more. *Human Development, 47*, 220-227.
- Umemura, T., Jacobvitz, D., Messina, S., & Hazen, N. (2013). Do toddlers prefer the primary caregiver or whome they feel secure? The role of toddler emotion. *Infant Behavior and Development, 36*(1), 102-114.
- VanIjzendoorn, M. H., & DeWolff, M. (1997). In search of the absent father-meta-analyses of infant-father attachment: A rejoinder to our discussants. *Child Development, 68*(4), 604-609.
- Yeung, W. J., Sandberg, J., Davis-Kean, P. E., & Hofferth, S. L. (2001). Children's time with fathers in intact families. *Journal of Marriage and Family, 63*,136–154.