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Sangita Pudasainee-Kapri
Syracuse University

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Abstract

The present study examined the longitudinal associations among supportive coparenting and father engagement during infancy and mother-child attachment at age three within an at-risk sample ($N= 1371$), using secondary data from Fragile Families and Child Wellbeing (FFCW) study. Mothers reported on coparenting and father engagement during the one-year phone interview and mother-child attachment was assessed using the Toddler Attachment Sort-39 (TAS-39) at age three during the three-year in-home interview. Findings suggest that supportive coparenting was significantly associated with higher levels of father engagement and more secure mother-child attachment relationship across three racial/ethnic groups including white, African American, and Hispanic. Interestingly, results also support racial/ethnic differences such that after controlling for child sex, infant temperament, family structure and maternal education, father engagement was a significant predictor of secure mother-child attachment only among Hispanic families. In addition, race/ethnicity moderated the link between supportive coparenting and father engagement such that the link was stronger among white families compared to minority families. Results highlight the significance of coparenting and father engagement in relation to mother-child attachment relationship. The implications of these findings for interventions targeting paternal engagement and coparenting among at-risk children are discussed.

ATTACHMENT SECURITY AMONG TODDLERS: THE IMPACTS OF SUPPORTIVE
COPARENTING AND FATHER ENGAGEMENT

by

Sangita Pudasainee-Kapri

B.S.N., Tribhuvan University, Nepal, 2007

A Thesis submitted in partial fulfillment of the requirements for the degree of

Master of Science

in

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Introduction

Extensive research has provided insight into the relationships between maternal sensitivity and the quality of mother-child attachment security. Specifically, the implications of early maternal parenting practices, such as sensitivity and mother-child interaction, for mother-child attachment security are well-established (Ainsworth, Blehar, Waters, & Wall, 1978; De Wolff & Van Ijzendoorn, 1997). However, a growing body of literature suggests that maternal sensitivity is not the exclusive predictor of mother-child attachment security, as several other dimensions of parenting play important roles for children's attachment relationships (Cowan, 1997; De Wolff & van Ijzendoorn, 1997). Family systems framework, in particular, emphasizes the other relationships within the family in which the multiple, interdependent relationships create a sense of security within dyadic (parent-child), and triadic (mother-father-child) relationships (Cowan, 1997). In addition, multiple relationships within a family create a unique experiential milieu that may have important implications for children's attachment to their mothers. Thus, a move to the contextual level and a multidimensional approach of parenting is required to interpret the complex transactions between context and attachment relationships. Within this framework, coparenting and father involvement have emerged as two key constructs that require further attention with respect to mother-child attachment security.

Coparenting has received increasing attention in recent years as a unique subsystem in the family. Coparenting is defined as a shared activity undertaken by parents (or those adults responsible for the care and upbringing of children) with mutual understanding, communication, and coordination between them about the child, and support of one another's efforts (McHale & Irace, 2011). Research suggests that the coparenting relationship is an important factor for positive child outcomes, such that it may either directly help to promote the sense of security that

a child feels-with his/her parent through exposure to positive, cooperative, and amiable interparental interaction, or may operate indirectly through the parent's ability to respond sensitively to the needs of their child and to provide a warm, affective interactional climate (Caldera & Lindsey, 2006). For example, a negative coparenting relationship may be a source of distress for parents and internal disequilibrium for the child, rendering the parents less available for sensitive parent-child interactions. In contrast, when mothers and fathers are more harmonious in interacting with their children, fathers will be more highly engaged in other contexts to promote security behaviors among children (Brown, Schoppe-Sullivan, Mangelsdorf, & Neff, 2010). Thus, the coparenting relationship is a significant predictor of the quality of mother-child attachment relationship (Brown et al., 2010; Caldera & Lindsey, 2006), particularly for sons (Brown et al., 2010), thereby positively influencing children's wellbeing (i.e., forming future social relationships) (Feinberg, 2002). In addition, research suggests that higher levels of supportive coparenting are positively associated with father involvement over time across diverse families; fathers who are able to effectively coordinate parenting with mothers are also more likely to spend time and engage in activities with their children (Carlson, McLanahan & Brooks-Gunn, 2008; Fagan & Palkovitz, 2010; Hohmann-Marriott, 2011; Isacco, Garfield & Rogers, 2010).

Developmental perspectives posit that parental involvement during the first few years of life is critical for optimal development among children. Focusing on the father-child relationship, sensitive fathering, like sensitive mothering, is important for toddler development (Ainsworth et al., 1978). Specifically, toddlerhood is a time of increased interest and involvement in father-child interactions, and a particularly good time to assess father involvement in child rearing. Specifically, rather than focusing on early infant regulation and attunement of mother and baby,

families with toddlers must begin to negotiate the affectional and bonding needs and set limits to provide better structure for their children (McHale & Irace, 2011). However, most theories of child development have not explicitly integrated the father's role either directly (from the father to child) or indirectly (mediated via the mother) into a family perspective (Easterbrooks & Goldberg, 1984). The family systems framework, in particular, emphasizes that family subsystems are mutually influential (Minuchin, 1974 as cited in Jia & Schoppe-Sullivan, 2011) and subsystem functions are interdependent of each other and circular in nature (Minuchin, 1985). Based on previous studies, father involvement may influence maternal parenting behaviors (Kalil, Ziol-Guest, & Coley, 2005; Lamb & Tamis-LeMonda, 1981; Pleck, 2007) and facilitate positive child outcomes by enhancing the quality of mother-child relationships (Lamb, 2010). Father involvement may also be a mechanism through which coparenting influences mother-child attachment. Therefore, the present study explores the direct link between father engagement and mother-child attachment as well as examines father engagement as a mediator of the association between supportive coparenting and mother-child attachment security.

Parents' and other caregivers' engagement in caregiving, physical play, and cognitively stimulating activities are critical for infants' developing attachment, communication and social cognition (De Wolf & Van Ijzendoorn, 1997; Mitchell & Cabrera, 2009; Risley & Hart, 2006 as cited in Cabrera, Hofferth & Chae, 2011). Because the nature of family subsystems may vary by race/ethnicity, the family context (such as the quality of the coparenting relationships) could differentiate levels of father engagement among racial/ethnic groups (Cabrera and Bradley, 2012; Cabrera, Ryan, Mitchell, Shannon, & Tamis-LeMonda, 2008). Interestingly, some research reports ethnic differences in levels of father engagement with their children, with minority fathers (e.g., African American and Latino fathers) engaging in higher levels of caregiving and

physical play activities than white fathers (Cabrera et al., 2011; Cabrera et al., 2008; Hossain & Roopnarine, 1994, Pleck & Masciadeccli, 2004; Roopnarine, 2004). To date, however, there is no prior research examining the links among coparenting, father engagement, and mother-child attachment in families with diverse race/ethnic backgrounds. Given the ethnic differences in the levels of father engagement, the present study explores how race/ethnicity (as a moderator) and father engagement (as a mediator) influences the link between supportive coparenting and mother-child attachment among three racial/ethnic groups (i.e., white, African American, and Hispanic).

Literature Review

Associations between Coparenting and Mother-Child Attachment

The coparenting relationship is one logical place to look for family correlates of attachment security. Attachment is conceptualized as an emotional bond or tie of toddlers to their mothers in which attachment theory has become a major source of framework for research on the socioemotional development (Ainsworth et al., 1978; Bowlby, 1969). Supportive coparenting is defined as the extent to which parents agree to cooperate in the upbringing of their child and the carrying out shared objectives including the demonstration of mutual support and commitment to childrearing (McHale, 1995). From a family systems perspective (Minuchin, 1985), coparenting is an extension of the marital relationship with the transactions of a third individual because including children in their relationships crosses over two family subsystems (i.e., marital and parent-child relationships) (Gable, Crnic, & Belsky, 1994). Increasing empirical investigation supports the theoretical distinction between coparenting and other subsystems in the family (McHale, 1995). Specifically, although both coparenting and the quality of the marital relationship predict parent-child attachment relationships (Caldera & Lindsey, 2006; Frosch,

Mangelsdorf, & McHale, 2000), coparenting is identified as a unique construct distinct from both the couple's relationship quality (the quality of marital relationships) and individual parenting behavior that explains unique portions of variance across various child outcomes above and beyond the effects of parenting (Caldera & Lindsey, 2006).

Research has also demonstrated that coparenting influences children's socioemotional adjustment, above and beyond the marital quality/ or dyadic parenting (Gable et al., 1994; McHale & Rasmussen, 1998). Specifically, research has demonstrated that coparenting contributes to the mother's perception of attachment security independent of her interactive behavior with the child, such as involvement during caregiving and play and appropriate responsiveness, and is associated with maternal effort and positive emotion with their children (Caldera & Lindsey, 2006). Also, support and harmony between parents may promote a greater sense of security in parent-child relationships, such that higher levels of observed supportive coparenting relationships predicts secure mother-child attachment relationships (Brown et al., 2010). These findings highlight the importance of examining triadic and family-level correlates of parent-child attachment relationships.

Research suggests that coparenting is directly associated with the parent-child attachment relationship. Using parent-reported security scores on the Attachment Q-Sort (AQS; Waters, 1987) in a sample of 11-15 month-old children, Caldera and Lindsey (2006) found that both individual parenting and coparenting were uniquely related to infant-mother attachment security; mothers who had supportive coparenting relationships were more responsive during a mother-child interaction session and were more likely to identify their child as securely attached to them. On the other hand, competitive coparenting (parents attempt to engage the child in different

activities at the same time and appears to compete for their child's attention) was associated with mother's perception of a less secure parent-child attachment relationship.

Researchers have also documented that coparenting dynamics in families influence and are influenced by children's adjustment (Cook, Schoppe-Sullivan, Buckley, & Davis, 2009). On the one hand, consistent with previous research, coparenting support is a central and proximal influence on parenting and child outcomes because it serves as a more powerful influence on parental adjustment and individual parenting with their children (Feinberg, 2002; Schoppe, Frosch, & Mangelsdorf, 2001). For example, high levels of supportive coparenting and more adaptive family structures were associated with less behavioral problems (Schoppe et al., 2001), more secure attachment relationships, and greater social competence (Feinberg, 2002). Moreover, research also suggests that coparenting may be especially susceptible to difficult child temperament, as such children may make failures of particular parenting strategies more likely, leading to greater undermining coparenting and individual parenting behavior between parents (Cook et al., 2009; Feinberg, 2003; Lindsey, Caldera & Colwell, 2005), and lower levels of mother-child attachment relationship (Diener, Neivar & Wright, 2003; Wong, Mangelsdorf, Brown, Neff, & Schoppe-Sullivan, 2009). For instance, mothers who view the paternal caregiving role as important were less likely to have securely attached infants only when infant fussiness was high (Wong et al., 2009), and parents of children with higher levels of negative affect demonstrated greater levels of undermining coparenting behavior (Cook et al., 2009). Also, those findings suggest that temperamentally difficult children may challenge multiple family subsystems and influence coparenting behavior, attachment relationships and other family processes.

Although coparenting has received increasing attention as a unique construct for parent-child attachment in recent years, there is limited research examining the processes that underlie or contribute to this link. Coparenting dynamics may contribute to other family processes, such as father engagement, that promote harmonious mother-child interaction and security promoting behaviors among parents. Therefore, the present study addresses this gap in the literature by examining father engagement as a mediator of the association between coparenting and mother-child attachment.

Association between Supportive Coparenting and Father Engagement

The involvement of fathers with their children is a topic of growing concern among the researchers and policy makers. Father involvement is a multidimensional construct including three primary components, namely accessibility, responsibility, and engagement (Lamb, Pleck, Chernov, & Levine, 1985). A more recent conceptualization of father involvement acknowledges both qualitative and quantitative aspects, which include three primary components (i.e., positive engagement activities, warmth and responsiveness, and control) and two auxiliary domains (i.e., indirect care and process responsibility) (Pleck, 2010). This study focuses on the quantitative aspect of father engagement (or positive engagement activities), defined as the direct, behaviorally observable interaction and the amount of time spent by the father in child rearing, play and cognitively stimulating activities. The initial year of a child's life may be a particularly important time during which fathers may provide direct care and engage in developmentally appropriate play for children, which are associated with more support in maternal parenting domain (Kalil et al., 2005) and their long-term engagement with their children (Cabrera et al., 2008; Lamb & Lewis, 2004). Also, fathers who are engaged in child rearing, accessible, and responsible for their children, may provide mothers with additional assistance in their parenting

role and flexibility to provide for her family (Kalil et al., 2005; Lamb & Tamis-LeMonda, 1981; Pleck, 2007) and may have more agencies to participate in daily coparenting interactions (Jia & Schoppe-Sullivan, 2011).

As children enter the toddler and preschool years, many fathers become involved with their children because of advances in motor, cognitive, and socio-emotional development (Bruce & Fox, 1999; Mitchell and Cabrera, 2009), and such involvement may challenge the family equilibrium and trigger more coparenting exchanges (McHale & Fivaz-Depeursinge, 1999). Research also suggests that supportive coparenting is a strong predictor of father engagement (Carlson et al., 2008; Fagan & Palkovitz, 2010; Hohmann-Marriott, 2011; Schoppe-Sullivan et al., 2008), such that when the mother trusts the father and can communicate with him about the child's needs, the father is more likely to see the child and to spend time and engage in activities with the child more frequently (Carlson et al., 2008).

The abovementioned literature indicates that both coparenting support and engaged father engagement can directly benefit children and their families. Interestingly, however, past research suggests that the direction of the association between coparenting and father's engagement may vary by family structure. Specifically, the extant literature suggests that the directional link from coparenting to father engagement is consistent across family structures (i.e., married/cohabiting and single-parent families), such that coparenting support is positively and significantly associated with father engagement over time (Fagan & Palkovitz, 2011; Hohmann-Marriott, 2011; Schoppe-Sullivan et al., 2008; Sobolewski & King, 2005). In contrast, research supports a strong positive association from father engagement to coparenting support only among married, cohabiting families (Isacco et al., 2010; Jia & Schoppe-Sullivan, 2011; McHale & Fivaz-Depeursinge, 1999) because non-residential fathers are likely to rely more heavily on a positive

coparenting relationship with the mother in order to stay involved with the child (Fagan & Palkovitz, 2011). Although previous studies using the Fragile Families and Child Wellbeing (FFCW) study have examined the link between perceptions of coparenting support and father engagement in different family structures (Carlson et al., 2008; Fagan & Palkovitz, 2011; Isacco et al., 2010), the present study explores the association between supportive coparenting and father engagement across diverse race/ethnicity by controlling the effects of the family structure in the model. More specifically, the present study focuses on the supportive coparenting- father engagement link. Of particular interest is the role of father engagement at age one as a mediator of the association between supportive coparenting at age one and mother-child attachment at age three.

Associations among Supportive Coparenting, Father Engagement, and Attachment: The Role of Race/Ethnicity

Although past research supports associations among coparenting, father engagement, and attachment security, there is also evidence to suggest that the associations may be different based on race/ethnicity. For instance, prior research suggests that coparenting is more powerfully and proximally related to parenting and child behavioral outcomes (Feinberg, 2002; Shoppe, Mangeldorf, & Frosch, 2001), such that the quality of the coparenting relationship is important correlates of father engagement with their children among Latino families (Cabrera and Bradley, 2012), and higher level of trust and emotional wellbeing of children (McHale et al., 2008). In addition, additional research suggests ethnic differences in the level of father engagement with their children such that minority fathers (African American and Latino fathers) engage in higher levels of primary caregiving than white fathers (Cabrera et al., 2008; Gibson-Davis & Gassman-Pines, 2010; Hossain & Roopnarine, 1994; Pleck & Masciadecelli, 2004; Roopnarine, 2004;

Roopnarine & Ahmeduzzaman, 1993). Prior research also suggests that controlling for father's human capital, mental health, and family relationships, African American & Latino fathers had higher levels of engagement in caregiving and physical play activities than white fathers (Cabrera et al., 2011).

Given the importance of fathers' engagement overtime, it is important to understand how fathers engage with their children during infancy and early childhood years and the factors that predict variation in levels of engagement. Because the nature of family subsystems may vary by race and ethnicity, the patterns of family relationships between parents and household structures specific to each racial/ethnic groups may also differentiated the quality of father engagement across racial and ethnic groups (Cabrera et al., 2008). For instance, African American men become fathers in diverse familial arrangements, through different relationship processes (e.g., visiting, cohabiting) in which biological and non-biological fathers and father figures may be involved in providing care and socializing children in multigenerational units (Roopnarine, 2004). The research also suggests that Latino fathers value families in terms of family obligation and family reciprocity, and are generally warm and nurturing and spend more time with their children in shared and caregiving activities than white fathers in the U.S. (Cabrera & Bradley, 2012; Cabrera et al., 2011; Roopnarine & Ahmeduzzaman, 1993).

Prior research using the data from the NICHD Early Child Care Research Network also suggests the mean differences in attachment security among African American (n= 142) and white children (n= 1002) (Bakermans-Kranenburg, Van Ijzendoorn & Kroonenberg, 2004). More specifically, African-American children's mean score on the attachment Q-Sort (AQS) was substantially lower (.20) than that of white children's (.30). Findings also suggest that children of African American and white families in the U.S. may be exposed to culturally specific

experiences but the pattern of covariation between attachment security and other predictors (i.e., maternal sensitivity) was strongest and similar across the both African American & white subgroups. However, the finding is not generalizable across racial/ethnic groups of families due to the small sample size of comparable groups (i.e., African American Sample) and the more affluent samples than the FFCW study.

Although research has demonstrated the importance of fathers in diverse family contexts for the developmental outcomes of children (Gable, et al., 1994; Juffer, Bakermans-Kranenburg, & Van IJzendoorn, 2007; McHale & Irace, 2011), and for the maternal parenting domain (Kalil et al., 2005), little research has focused on how father engagement influences maternal parenting and mother-child attachment relationships across diverse racial/ethnic groups. To date, only limited research found a positive link between supportive coparenting to father-child attachment and father engagement to father-child attachment relationships among majority of white samples (Brown et al., 2010, Wong et al., 2009), however there is no research focused on the links between coparenting support and father engagement to mother-child attachment in diverse racial/ethnic groups. Therefore, studies with comparisons of association between father engagement and supportive coparenting across racial/ethnic groups are needed to clarify the effects of these contextual factors on coparenting-father engagement-child outcomes.

In addition, the majority of the parenting literature is dominated by mother-child interactions/ relationships among white families. As minority families become an increasingly larger part of American society (i.e., one fifth of children are of minority background) (Federal Interagency Forum on Child and Family Statistics, 2009), it is critical to understand how race/ethnicity is linked to differential levels of father engagement with their children, and the results of these differences for child outcomes, including mother-child attachment. Thus, the

present study explores the associations among these constructs across three racial/ethnic groups with particular attention to mediating and moderating pathways. More specifically, the present study contributes to the literature by comparing a model of supportive coparenting, father engagement, and mother-child attachment with the mediating role of father engagement and the moderating role of race/ethnicity. While this examination of race/ethnicity as a moderator of the associations among these three constructs is informed by the abovementioned literature, it is largely explorational.

Theoretical Framework

Attachment refers to the affectional bonds that infants form with their caregivers that endure across time and situations (Ainsworth et al., 1978). Secure attachment involves the mental representation of others as available and trustworthy, and the mental representation of the self as worthy of love and care (Belsky, 1999). Fundamental to attachment theory is the notion that sensitive, responsive parenting is associated with secure child-parent attachment relationships, whereas hostile or rejecting parenting is linked to insecure attachment relationships (Ainsworth et al., 1978; de Wolff & van IJzendoorn, 1997). The attachment relationship during infancy is an important basis and resource for future socio-emotional development and competence, such that securely attached children use their parental figure as a secure base, enabling them to explore their environment and to develop autonomy in relative harmony with the parent (Juffer et al., 2008). The positive association between secure attachment and later optimal child development highlights the need to understand the origins of attachment relationship and its relation to different family processes. Interactional processes may become similar for mothers and fathers or other consistent caregivers, such that individual differences in attachment security are systematically related to the quality of attachment relationships either in

the laboratory-based strange situation or the home-based Q-sort procedure (Belsky, 1999). Also, although infant temperamental characteristics may contribute to the quality of interaction between parents and children, evidence does not support these attributes as primary determinants of attachment security (Belsky, 1999).

Central to attachment-based intervention, a secure attachment relationship is an important basis for children's current and future development. Therefore, several authors have argued that the family should be considered a system (Cowan, 1997; Gordon & Feldman, 2008; McHale and Irace, 2011), and attachment based interventions should use the system characteristics with involving both mothers and fathers to strengthen mother's influence and to stimulate family support for changes in maternal behavior (Egeland, Weinfeld, Bosquet & Cheng, 2000, as cited in Juffer et al., 2008). From the systems perspective, attachment is a relational concept; the individual is conceptualized as an interdependent, contributing part of the system that control his or her behavior, and the focus of attention is on functioning within the system rather than in internal processes (Minuchin, 1985). As parental warmth and sensitivity are empirically derives determinants of children's attachment security, the relations between parenting behavior and other contextual variables may have equally important roles in the quality of attachment relationships (De Wolff & Van IJzendoorn, 1997). Therefore, despite a historical focus on mothers as primary caregivers, a family systems perspective on attachment suggests that family functioning at the triadic level may directly influence the quality of the dyadic (i.e. father-child) parent-child relationships that comprise the triad, and some contextual variables combine additively to explain variance in children's attachment (Cowan, 1997). Therefore, father engagement and supportive coparenting may enhance the effectiveness of attachment-based

interventions as well as positively influence maternal parenting behavior (Feinberg, Kan, & Goslin, 2009; Juffer et al., 2008; McHale et al., 2008).

The enhancement of coparenting relationships in a family might relate to a series of important parent and child outcomes. Effective functional coparenting units collaborate with each other to provide a family context that communicates to children solidarity and support between parenting figures, a consistent and predictable set of rules and standards (regardless of whether the child live in a single household or in multiple caregivers) (McHale, Laureti, Talbot, & Pouquette, 2002, as cited in McHale et al., 2008). Also, consistent and predictable coparenting alliances contribute to children's wellbeing by enhancing feelings of trust, security and self-regulation (McHale et al., 2008). Therefore, coparenting support is a powerful resource that enhances the sensitivity, warmth and consistency of parenting which will enhance children's emotional security, cognitive capacity, social competence, parent-child attachment relationships (Feinberg, 2002; Feinberg et al., 2009). Coparenting systems in families take shape early in infancy and are intertwined with children's development and family functioning because supportive coparents value each other's contributions to parenting, respects each other's authority, and is cooperative and warm when interacting with their child (Jia & Schoppe Sullivan, 2011).

During the toddler and preschooler years, coparenting dynamics are necessary to negotiate the balance between fulfilling the child's affectional/bonding needs and setting limits (McHale & Irace, 2011). In addition, the coparenting system also provides support and comfort in times of stress, promotes children's development through shared activities, joint attention, and turn taking, and provides modeling, guidance and encouragement in parenting. Therefore, a key aspect of the family system involves the quality of coordination and support between parents in

their parenting roles (Feinberg, 2003), and these supportive behaviors are important dimensions of coparenting (McHale, 1995), and parent-child relationships. Coparenting alliances help to establish a parent enduring commitment to helping care for and engaging with child and support in one another's effort that ultimately helps the children's developmental outcomes in diverse family systems (McHale & Irace, 2011; Gable et al., 1994). In addition, coparenting interventions help mothers to strengthen their capacity to include fathers in child rearing and play activities, which facilitate the children's sense of security (Feinberg et al., 2009). Indeed, children's development is intertwined with the functioning of family system in triadic and dyadic levels. Therefore it is expected that high-quality coparenting relationships may directly and indirectly impact father engagement and mother-child attachment.

Family systems theory also stipulates that families consist of mutually interdependent subsystems (Minuchin, 1974 as cited in Jia & Schoppe-Sullivan, 2011; Minuchin, 1985), implying reciprocal relations between father engagement and coparenting. Coparenting and father engagement are distinct constructs because coparenting is usually described as triadic-level family context (mother-father-child) (Cowan, 1997), in which when parents share childrearing equally, couples can still vary in the quality of their parenting behavior (Feinberg, 2003). Also, theoretical framework suggests that patterns in a system are circular not linear, and interconnected subsystems have their own integrity to maintain homeostatic balance within the system (Minuchin, 1985). For example, structural family theory purports that adaptive and healthy family systems with parenting adults are hierarchically organized, and different subsystems (i.e., coparenting, parent-child) are mutually influential for emotional growth and development of children associated with attachment relationships (McHale & Irace, 2011). In addition, high levels of coparenting relationship between parents who live apart predicts more

frequent father-child contact, which in turn predicts more responsive fathering, and stronger ties between non-resident fathers and their children (Sobolewski & King, 2005). Although, maternal parenting behavior (i.e., maternal sensitivity) was particularly important for the security of child-mother attachment relationship, from a theoretical perspective, the toddler period is a particularly good time to assess father-child interactions and especially important in “breaking up” the symbiotic nature of the infant-mother relationship (Easterbrooks & Goldberg, 1984). According to family systems theory, father involvement is nested within the broader family context, and relationships among family members dynamically affect one another within and across time (Cabrera et al., 2007 as cited in Tamis-LeMonda, Kahana-Kalman, & Yoshikawa, 2009). Therefore, a family systems analysis of attachment should consider the direct and indirect effects of fathers’ behavior on their children, on father-child relationships, and the contributions of multiple caregivers on attachment relationships (Cowan, 1997).

The extant literature also suggests that fathers influence their children directly and indirectly in diverse ways, and both pathways are keys for the comprehensive understanding of parent-child relationships (Lamb, 2010). Attachment theory, in particular, posits that sensitive/responsive fathers become an attachment figure early in life and early interactions form a foundation to later emotional development and secure and sustained relationships overtime (Lamb, 2002). From a theoretical standpoint, mothers and fathers alike must adjust their infants’ rapid changing demands to accomplish their growing needs and competencies. Fathers who are able to sensitively accommodate their infants emerging abilities help to promote secure attachment relationships and influence their commitment to engage further with their children (Lamb, 2002; Lamb & Lewis, 2004). In addition, fathers’ responsiveness and sensitivity towards their young children are associated with children’s social competence and cognitive abilities

(Black, Dubowitz, & Starr, 1999, Lamb & Lewis, 2004; Shannon, Tamis-Lemonda, London, & Cabrera, 2002). So, on the one hand, father involvement in child rearing directly promotes child outcomes as well as diminishes coparenting distress (Feinberg, 2002). For example, fathers who spent a greater amount of time in play activities, particularly stimulating and emotionally arousing play, directly influenced children's cognitive capacity and socio-emotional wellbeing (Lamb, 2010). In addition, high quality father involvement (Easterbrooks & Goldberg, 1984) and supportive coparenting directly predict father-child attachment relationships (Brown et al., 2010; Wong et al., 2009), and potentially influence child developmental outcomes (Pleck, 2007). Consistent with maternal sensitivity, father's engagement may serve as an estimate of sensitivity, and the direction of relationship indicates that fathers who are engaged in the caregiving of their infants describe their infants as more likely to engage socially with others, play independently with toys, and obedience (Caldera, 2004).

In addition to direct effects, father involvement may have indirect or mediated effects on child outcomes especially by influencing maternal parenting behaviors (Pleck, 2007; Kalil et al., 2005) such as, affectionate, responsive, & confident with their infants and toddlers (Lamb & Tamis-Lemonda, 1981). In addition, fathers may provide a source of emotional and instrumental support to mothers by involving in direct care of children, as well as an economic support in child rearing (Lamb, 2010; Lamb & Tamis-Lemonda, 1981). Indeed, father's role as a source of emotional support tends to enhance the quality of mother-child relationships, thus facilitates positive child outcomes (Lamb, 2010), such that children who have an involved father are more likely to be emotionally secure, be confident to explore their surroundings, & more sociable (Lamb & Tamis-Lemonda, 1981). Whereas, unsupportive fathers and high level of marital conflict serve as a source of insecure attachment relationships and high level of externalizing

problem behaviors among preschoolers (Frosh et al., 2001). Paternal involvement in child rearing also influences their children by providing the models of behavior. In addition, when fathers are supportive and encouraging, mothers are more competent parents, are more patient, flexible, emotionally responsive, sensitive, and available to their infants and young children (Cowan & Cowan, 1982). This tends to enhance the quality of the mother-child relationship and thus facilitates positive developmental outcomes for their children (Lamb, 2010), such as secure mother-child attachment (Brown et al., 2010).

Although the direct effects of father involvement in attachment processes and for other developmental outcomes of children has been well established, the indirect effects (i.e., how father involvement influences child development via mother's behavior) are less clear from the empirical investigations. From a practical standpoint, infancy and toddlers is a crucial time for practitioners and policy makers to support men who are invested in their new roles as a father because healthy and positive father-child engagement contribute to father-child relationships and children's later development. Therefore, the present study explores the association between father engagement and mother-child attachment relationships. Moreover, with the recognition that indirect patterns of father influence are pervasive and important, the present study explores father engagement as a mediator of the link between supportive coparenting and mother-child attachment.

Family adaptations during the earlier years of the child's life differ markedly across cultures (Garcia Coll, 1990). In particular, minority families tend to have certain characteristics in terms of structure and roles, family beliefs and values, socioeconomic status and resources such that the adaptations and family functioning must be understood within the contexts of different cultures (Garcia Coll et al., 1996). However, attachment theorists have focused on

mothers as the primary caregivers and fathers as substitutes to provide a secure base of support among children (Bowlby, 1969). Interestingly, in minority families, there is a tendency to have a more integral use of persons other than biological parents through the support of extended family members, familism and kinship (Garcia Coll, 1990; Garcia Coll et al., 1996; Roy & Borton, 2009). For example, in African American fathers, biological and non-biological fathers and father figures may engage in caregiving for children through diverse familial arrangements, marital relationships processes, and multigenerational units (Roopnarine, 2004). In addition, socialization processes may vary in low-income minority families, and particularly in non-traditional family structures, such that the mother's coparenting relationship with the father or father figure is shaped by the nature of the romantic relationship and intergenerational caregiving responsibilities. For example, in low-income, single-parent families, mothers may receive consistent support for their children through the recruitment of fathers and father figures (such as, intimate partners/boyfriends, non-intimate family members and friends, paternal and maternal kin) who contribute to child wellbeing through the provision of better resources and care (Roy & Borton, 2007). Moreover, given the significant role of persons other than the biological father in these families, coparenting processes may not have the same role in mother-child attachment relationships across race/ethnic groups.

A growing body of literature also suggests the striking features of racial/ethnic differences such that specifically African American families have a high percentage of poverty, single headed households, non-marital childbearing (Mincey and Oliver, 2003). In addition, the heuristic models of father involvement among Latino fathers also suggest that greater paternal involvement appears to result in higher levels of competence among children, more positive adjustment and higher maternal sensitivity (Cabrera & Bradley, 2012). Most of the measures and

frameworks used in research with minority fathers suggest the dynamic interaction of family processes and different contextual variables on child outcomes compared to whites. With the recognition of ethnic/racial differences in the level of father engagement, the present study explores the strength of the association among these constructs with a particular focus on moderating role of race/ethnicity.

Conceptual Model

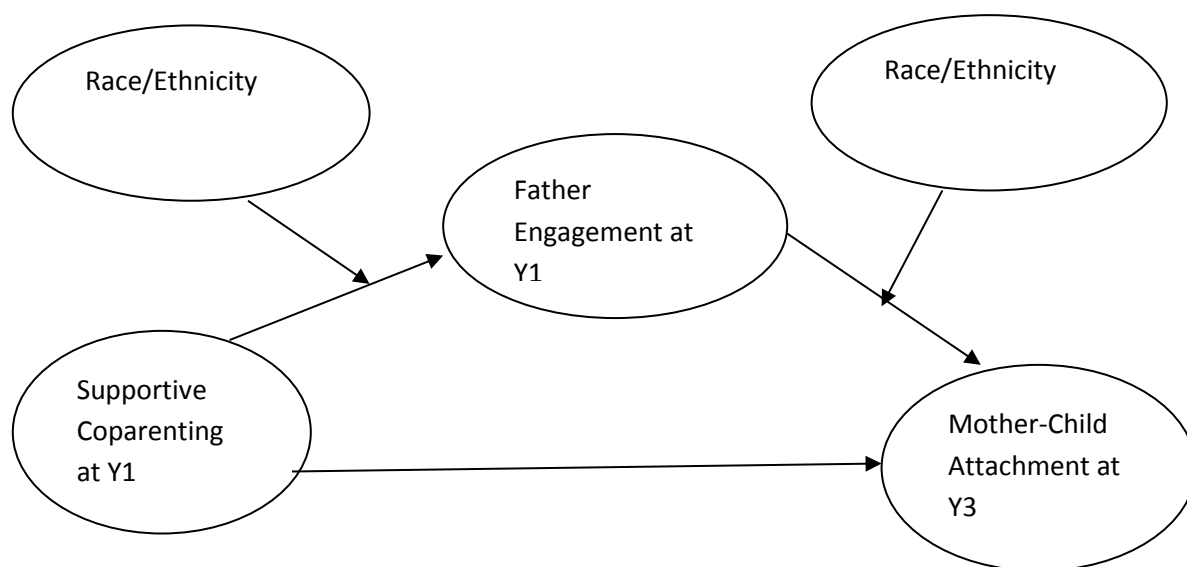


Figure 1. Conceptual Model of the Relationship between Supportive Coparenting, Father Engagement, and Mother-Child Attachment Security mediated by Father Engagement and moderated by Race/Ethnicity (white and minority). Y1= Year 1, 1-year follow-up interview; Y3= Year 3, 3-year follow-up interview.

Figure 1 presents a diagram of the proposed conceptual model for how coparenting, father engagement, and mother-child attachment security are linked among at-risk families across three race/ethnic groups. Based on previous research, the present study expects that

supportive coparenting at age one will predict father engagement at age one across families with diverse race/ethnic groups. It is also expected that both coparenting at age 1 and father engagement at age one will be associated with mother-child attachment security. Moreover, the present study proposes that father engagement at age one will mediate the association between supportive coparenting at age one and mother-child attachment at age three across three racial/ethnic families. In addition, based on the results of prior studies, the present study expects that race/ethnicity will moderate the links between supportive coparenting to father engagement; and father engagement to mother-child attachment, such that the strength of the associations will be stronger for minority families (African American & Hispanic) than white families.

Purpose of This Study

The majority of research on coparenting and parenting behavior focuses on heterosexual, white two-parent families with young infants (Brown et al.2010; Caldera & Lindsey, 2006; McHale et al., 2003, cited in Brown et al.2010). Coparenting processes may operate differently in diverse families, and may differ depending on children's age, especially children's emerging abilities across toddler ages are likely challenging (Easterbrooks & Goldberg, 1984), because of the need for increasingly verbal and independent (McHale & Irace, 2011). Because of the complex nature and interdependencies of relationships within the family system (Easterbrooks & Goldberg, 1984), the proposed study will explore the longitudinal association between supportive coparenting and mother-reported attachment security, with a special interest in the role of father engagement and variation across race/ethnic groups. To date, there is no prior study that explores the link between coparenting and father engagement to mother-child attachment

within the same study or using the meditation/moderation model among these constructs across different race/ethnic groups.

While previous studies using the sample from FFCW study have examined the link between perceptions of coparenting support (degree of mutual support, cooperation, and commitment in child rearing among partners) and father engagement in different family structures (Carlson et al., 2008; Fagan & Palkovitz, 2011, Isacco et al., 2010), the present study controls the effects of family structures and examines the associations among supportive dimensions of coparenting (conceptualized as each parent's value of each other's contributions to parenting, respect each other's authority and cooperative and warm when interacting with their child together), father engagement and the quality of mother-child attachment based on ethnicity within the same sample.

In sum, the purpose of this study is to expand the existing literature concerning the linkage between the family environment and the mother-child attachment relationship by focusing on the quality of the supportive coparenting relationship and father engagement among toddlers of at-risk families. Particularly, family systems perspective on attachment emphasizes that attachment is a relational concept, and is a property of the interaction between different subsystems (i.e., parent-child, mother-father-child) (Minuchin, 1985), therefore enhancing coparenting quality will improve the quality of parent-child relationships (increase warmth, support and positive interaction) which will enhance children's emotional health, secure attachment relationships and social competence (Feinberg, 2002).

Of particular interest is whether the associations among father engagement, coparenting support, and the quality of mother-child attachment relationships vary by race/ethnicity. Based on the prior study on racial/ ethnic differences in level of father engagement, present study

expects that minority fathers (African American and Hispanic fathers) will be highly engaged with their children than white fathers. In addition, the association among father engagement and attachment security will be higher among minority (African American and Hispanic) families as compare to white families. The present study also expects that race/ethnicity may moderate the association between supportive coparenting and father engagement and in the link between father engagement and attachment such that the link among these constructs will be stronger for minority families (African American and Hispanic) as compare to white families. Indeed, the study will establish the relevance of coparenting and father's role in the quality of mother-child relationships in diverse racial/ethnic backgrounds, because the quality of cooperation, coordination and support in family (subsystems functioning/and coparenting adults), and effective family processes determine the child's developmental outcomes in diverse groups (McHale & Irace, 2011).

Research Questions

Consistent with research and theory on the impact of early parenting behaviors on mother-child attachment security, the present study addresses the following five research questions.

1. Does supportive coparenting at age one predict mother-child attachment security at age three?

Based on the findings from previous research (Brown et al., 2010; Caldera & Lindsey, 2006), the present study expects that supportive coparenting at age one will be significantly and positively related to mother-child attachment relationships at age three.

2. Does supportive coparenting at age one predict father engagement at age one?

Based on prior research on coparenting and father involvement (Hohmann-Marriott, 2011; Isacco et al., 2011; Jia & Schoppe-Sullivan, 2011; Schoppe-Sullivan et al., 2008), and family

systems framework, a significant positive association between supportive coparenting at age one and father engagement at age one is expected.

3. Does father engagement at age one predict mother-child attachment security at age three?

Based on the fact that fathers play multifaceted roles in child development in which fathers could indirectly help in mother's parenting domain and child outcomes (Kalil et al., 2005; Lamb, 2010), particularly mother-child attachment relationships (Easterbrooks & Goldberg, 1984), it is expected that father engagement at age one would be positively related to the mother-child attachment security at age three.

4. Does father engagement at age one mediate the relationship between supportive coparenting at age 1 and mother-child attachment security at age 3?

Consistent with previous literatures and theoretical approaches (attachment theory, family systems theory), it is expected that father engagement at age one will mediate the relation between supportive coparenting at age one and mother-child attachment at age three.

5. Does race/ethnicity will moderate the strength of the mediated relationships between supportive coparenting at age one and mother-child attachment security at age three via father engagement at age one?

Consistent with the previous literature on differential level of father engagement across racial/ethnic groups (Cabrera et al., 2011, Cabrera et al., 2008, Hossain & Roopnarine, 1994), the proposed model expects that race/ethnicity will moderate the strength of the mediated relationships among these constructs such that the association will be stronger for minority families (African American and Hispanics) as compared to white families.

Methodology

Data and Sampling Strategy

Data for this study are from Fragile Families and Child Wellbeing Study (FFCW), a national longitudinal study of nearly 5,000 born (roughly three quarters of whom were born to unmarried parents), designed to examine the characteristics of unmarried parents, the relationships between them, and the consequences for children (Center for Research on Child Wellbeing, 2008). The unmarried parents and their children are referred to as ‘fragile families’ because their families are at greater risk of breaking up and living in poverty than more traditional families (Center for Research on Child Wellbeing, 2008). The FFCW study follows a birth cohort of children born to unmarried parents and a comparison group of married parents using a stratified random sample of all U.S. cities with 200,000 or more people (Reichman, Teitler, Garfinkel, & McLanahan, 2001). Stratification was based on policy environments and labor market conditions in the different cities. The FFCW survey was conducted by the Center for Research on Child Wellbeing at Princeton University and the Social Indicators Survey Center at Columbia University.

Baseline interviews with mothers and fathers were conducted shortly after the child’s birth between 1998 and 2000 at each hospital based on maternity ward lists. Mothers were interviewed in person in the hospital within 48 hours of the child birth, and fathers were interviewed in person or by phone as soon as possible thereafter, either in the hospital or wherever they could be located (Reithchman, et al., 2001). Of the total births, approximately 3600 births were to unmarried mothers, 87% of eligible mothers completed baseline interviews, and at least 75% of unwed fathers interviewed at baseline (Reichman et al., 2001). These initial interviews were followed by telephone interviews with both parents when the child was one,

three, and five years old and in-home interviews with mother at three years old (Reichman et al., 2001).

Sample

The FFCW study has been guided by the desire to obtain better data on unwed parents, especially unwed fathers and their children with comparison groups of married samples. The FFCW study consists of interviews with both mothers and fathers at birth and again when children are ages one, three, five, and nine plus in-home assessments of children and their home environments at ages three, five and nine. The present study draws on data from a subsample of families participating in the FFCW study. Specifically, to be eligible for the analytic sample, mothers had to be interviewed in the hospital shortly after the birth of the child at baseline and had to complete the telephone interviews when the child was one and three years old. In addition, mothers in the current study were required to complete the Maternal Q-sort on child attachment during the In-Home-Assessment at age three ($n=2,268$). Specifically, the final analytic sample ($n=1,371$, 28% of original sample) was drawn from families across 18 cities, mothers who consistently interviewed at one-year, three-year, and mothers who have attachment data at age three. Of the 4,898 original families, families from the two pilot cities ($n=569$) were excluded from the analytic sample initially because the data were available only for certain variables. Then, mothers who did not participate at year-1 interview ($n=1465$), and year- three interview ($n=176$) were excluded from the analytic sample. In addition, mothers who did not have attachment data at year-three ($n=984$) were dropped from the analytic sample. The final steps for the analytic sample was the exclusion of fathers who did not see their child more than once in the past month ($n=275$) and the other race/ethnicity category ($n=58$). These criteria resulted in the

exclusion of 3,527 (72% of original sample) families, which brought the final analytic sample to 1,371 families.

Demographic characteristics of the analytic sample are displayed in Table 1. Two items from the mother's questionnaires at year-one interviews (relationship with father and current living conditions) were used to determine the family types, which included married/cohabiting (72%) and single parent families (28%). Of the mothers in this analytic sample, 38.8% met the federal definition of poverty at baseline and 35% did not complete high school. The majority of participants were ethnic minority, including 49.5% African American and 24.2% Hispanic. The average household size was 4.59. In addition, children were evenly distributed by sex. Compared to the original sample, the analytical sample has greater proportions of married/cohabiting (72% vs. 50.4%) families than single parent families (28% vs. 38.7%). Families in the analytic sample were more likely to be African American (Black) (49.5 % vs. 47.5 %) and White (26.3% vs. 21%), and less likely to be Hispanic (24.2% vs. 27.3%), and more likely to have some college education (39% vs. 35%) as compared to original sample.

Procedure

Prior to conducting the data analysis, approval for the study was obtained from the Syracuse University Institutional Review Board. In addition, approval was obtained at the Office of Population Research, Princeton University for the data used in this study.

Demographic characteristics of the sample were collected at the baseline interview with the mother, as noted above. Data on father engagement and supportive coparenting at age one were collected via the one-year maternal interview. Mother-child attachment data were collected during the in-home interview as part of the survey on Child Care and Parental Employment, when the child was three years of age.

Measures

Supportive coparenting. Supportive coparenting between mothers and fathers was reported by mothers using a series of six items about how the parents work together in raising their child. These questions were asked if the fathers saw the children at least once since the child's birth. These items include (1) "When father/mother is with child, he/she acts like the father you want for your child," (2) "You can trust father/mother to take good care of child," (3) "He/she respects the schedules and rules you make for child," (4) He/she supports you in the way you want to raise child," (5) "You and father/mother talk about problems that come up with raising child," and (6) "You can count on father/mother for help you need someone to look after child for a few hours." Response choices were "rarely true" (1), "sometimes true" (2), "always true" (3), and "never" (4). These items were averaged to create a composite score in which higher values indicating a more supportive coparenting relationship (Carlson et al., 2008; Fagan & Palkovitz, 2011; Isacco et al., 2010). The scale had high internal consistency ($\alpha = .85$).

Father engagement. The FFCW mother questionnaire included 10 items addressing mother-reported father engagement in child care and participation in play and oral language activities with their biological children that is most reflective of the engagement component of the Lamb et al. (1985) model. The mothers reported on father engagement if the father saw the child more than once in the past month. For each item, mothers indicated the mean number of days in the past week (0 to 7) that the father engaged in activities with the child, which included singing, reading stories, telling stories, and playing with toys ($\alpha = .89$). Items were averaged to create a composite score ($\alpha = .89$; Carlson et al., 2008; Fagan & Palkovitz, 2011; Isacco et al., 2010). In terms of measures, most of the research studies rely on mother's perception of father involvement (Kalil et al., 2005). Since, mothers were more likely to be interviewed than non-

resident fathers in FFCW study, maternal report of father involvement was used in the proposed study.

Attachment Q-Sort. The Attachment Q-Sort (AQS) represents an assessment of the parent's perceptions of their child's attachment behavior rather than objective assessment of parent-child attachment relationship (Caldera & Lindsey, 2006). The Maternal Attachment Sort (MAS-39) consisted of 39 attachment items adapted from the original 90 items (Waters, 1987) that were reported by mothers (or another primary caregiver, if the biological mother was not the respondent for the In-Home survey; n=2268).

The items were administered by using method of successive sorts (MOSS) Q-Sorting technique. Sorting resulted in items being rated on a five-point Likert scale ranging from 1 to 5, 1 = Applies mostly (pile 1a), 2 = Applies often (pile 1b), 3 = Undecided, quick reread for possible shift to either side (pile 2), 4 = applies sometimes (pile 3a), and 5 = applies rarely or hardly ever (pile 3b). The data were analyzed by Kirkland using a two-step method based on a geometrical model/or three-dimensional map of attachment space (Bimler & Kirkland, 2005). First, items were summarized as descriptors reflecting eight subscales/hotspots (according to Principal Components Analysis, Varimax rotation) which were used to then classify individuals by comparing their score profiles to prototypical descriptions of the A, B, C styles of attachment. Second, each descriptor was summarized as a vector within a three-dimensional spatial model of "attachment space" namely *security*, *dependency*, and *sociability*. The first dimension/component of the vector indicates the relative importance in determining child's behavior of attachment concepts of security and ranged from -.78 to 1 (mean=.47). In the security dimension, a positive score implies a positive level of security in the child's relationship with mother, whereas a negative score implies a more-or-less insecure relationship (Bimler & Kirkland, 2005). There

was high correlation ($r = .84$) between items coordinates and their values on the security criterion sort distributed by Waters (1987) for analyzing the AQS data.

Control variables. The study includes controls for a range of key variables in order to avoid spurious relationships between coparenting, father engagement and mother-child attachment security. These include measures of the family structure, maternal education, child temperament, and child sex. Maternal education and child sex were recorded at baseline. Mother's education was specified as less than high school, high school diploma /a GED and some college or above from baseline mother's survey. Family structure was specified as married/cohabiting and single parent families. Difficult temperament in infancy was assessed at 1 year and reflects the average of the following three items ($\alpha = .59$) drawn from the Emotionality scale of the Emotionality, Adaptability, Sociability (EAS) Temperament Survey for Children (Buss & Plomin, 1984): (1) Reacts strongly when upset, (2) Often fusses and cries, (3) Gets upset easily.

Missing data

Among the 1,371 families in the analytic sample, the amount of missing data in control variables and supportive coparenting was relatively small (less than 2%). However, father engagement data were missing for 13% of the children, largely due to data collection with the mother by telephone interview instead of in-person. While mean substitution may affect the interpretability of the analysis, it is a reasonable estimate of a value for a randomly selected observation from a normal distribution (Acock, 2005). Based on the assumption that data were missing at random, the mean substitution procedure was used in IBM SPSS Statistics Software Version 18 (Pallant, 2010).

Results

Preliminary Analysis

Table 1 presents the percentages or means and standard deviations for the control, predictor, mediator, moderator and outcome variables. Since supportive coparenting at age one was negatively skewed (skewness was -2.20), the original variable was reflected by subtracting the original value from a constant (5; the constant was calculated by adding 1 to the largest value of the variable) and was further transformed by taking the square root of the new reflected variable. For interpretability purposes, the transformed coparenting variable was again reflected back into a new variable by subtracting the original value from a constant (the constant was calculated by adding 1 to the largest value of the variable) so that higher values of the new coparenting variable indicated more supportive coparenting. As expected, across the analytic sample, significant bivariate associations were found between supportive coparenting at age one and mother-child attachment at age three ($r = .12, p < .001$), and between supportive coparenting at age one and father engagement at age one ($r = .44, p < .001$). However, the link between father engagement at age one and mother-child attachment at age three was not significant ($r = .04, ns$).

Partial correlations among key variables for minority groups are displayed in Table 2; child sex, infant temperament, family structure, and maternal education are controlled. The association between supportive coparenting at age one and father engagement at age one was significant for both Hispanic ($r = .34, p < .001$) and African American families ($r = .32, p < .001$). Similarly, the link between coparenting and mother-child attachment at age three was significant for both Hispanic ($r = .12, p < .05$) and African American ($r = .09, p < .05$) families. Interestingly however, the link between father engagement at age one and mother-child attachment ($r = .12, p < .05$) at age three was significant only among Hispanic families, suggesting that father

engagement is a significant predictor of mother-child attachment among Hispanic families. As a comparison, there was a strong, positive link between supportive coparenting and father engagement ($r = .46, p < .001$), but was a modest link between supportive coparenting and mother-child attachment ($r = .09, p < .10$) among white families such that high levels of coparenting support were associated with higher levels of father engagement and mother-child attachment security.

Table 1

Descriptive Statistics for Control, Predictor, Mediator, Moderator and Outcome Variables
($N=1371$)

Variable	%	M	SD
Demographics			
Child male	50.6		
Infant temperament		2.81	1.04
Family structure			
Single parent	27.9		
Married or cohabiting	72.1		
Maternal education			
Less than high school	35.1		
High school graduation/GED	26.2		

Some college or more	38.7		
Above poverty line	61.2		
Predictor			
Supportive coparenting		1.34	.06
Mediator			
Father engagement		3.64	1.46
Moderator			
Race/ethnicity			
White	26.3		
African American	49.5		
Hispanic	24.2		
Outcome Variable			
Mother-child attachment		.46	.27

Note. The transformed value was reported for coparenting variable.

Table 2

Partial Correlations among Supportive Coparenting, Father Engagement and Mother-Child Attachment based on Minority Race/Ethnicity

Variable	1	2	3
1. Supportive Coparenting 1	---	.34***	.12*
2. Father Engagement 1	.32***	---	.12*
3. Mother-Child Attachment	.09*	-.06	----

Note. Partial correlations are presented among minority racial/ethnic groups (African American: $N = 678$, and Hispanic: $N = 332$) controlling for child sex, infant temperament, family structure, and maternal education. Numbers above the diagonal represent values for the Hispanic families and numbers below the diagonal represent values for the African American families.

* $p < .05$, *** $p < .001$

Preliminary analyses also included an independent sample t-test comparing values on coparenting support, father engagement, and mother-child attachment security across minority and white families (see Table 3). Results suggest that there was a significant difference in scores of father engagement, such that minority families scored lower than whites, ($t = -2.90$, $p < .01$), with small effect size (eta squared = .01) (Pallant, 2010). Similarly, attachment was significantly lower in minority families compared to white families ($t = -5.410$, $p < .001$; eta squared = .02). Supportive coparenting did not differ significantly between minority and white families ($t = -.34$,

ns), suggesting that the mean scores for supportive coparenting was similar across both race/ethnic groups.

Table 3

T-tests Comparing values on Coparenting Support, Father Engagement, and Mother-Child Attachment Security across Minority and White Families (N=1371)

Variable	Minority (N=1010)		White (N=361)		t-value
	Mean	SD	Mean	SD	
Supportive coparenting	1.34	.058	1.34	.055	-.34
Father engagement	4.15	1.59	4.40	1.35	-2.90**
Mother-child attachment	.43	.26	.52	.29	-5.41***

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

Analytic Approach

Data analysis involved a three-step process to address the five research questions. First, multiple regression analyses were conducted to assess the independent associations among key variables of the study, namely supportive coparenting, father engagement, and mother-child attachment (research questions 1 to 3). Second, hierarchical multiple regression analysis was conducted to test whether father engagement mediated associations between supportive coparenting and mother-child attachment across race/ethnicity (research question 4). Third, a series of hierarchical multiple regression analyses were conducted to test whether the strength of the associations among supportive coparenting, father engagement, and attachment varied by

race/ethnicity (research question 5). All regression models included controls for child sex, infant temperament, family structure, and maternal education. In addition, race/ethnicity was included as a control and was represented by a dummy variable for minority status in analyses addressing questions one through three. Control variables were entered at the first block of the regression model to avoid the spurious relationships among key variables.

The Association between Supportive Coparenting and Mother-Child Attachment

Multiple regression analysis was conducted to test the association between supportive coparenting at age one and mother-child attachment security at age three (see Table 4). The results suggest that supportive coparenting at age one was a unique predictor of mother-child attachment ($\beta = .10, p < .01$) at age three across race/ethnic groups. In addition, the minority dummy was significant ($\beta = -.09, p < .01$), which indicates that mother-child attachment security was lower for minority children as compared to white children.

Table 4

Supportive Coparenting as a Predictor of Mother-Child Attachment

Variable	B	SE	β
Child sex	-.028	.014	-.052*
Child minority	-.055	.017	-.090**
Infant temperament	-.026	.007	-.101***
Married or cohabiting	.006	.017	.011
Mother education<high school	-.038	.018	-.068*
Mother education>high school	.050	.018	.091**
Supportive coparenting	.452	.131	.096**

R^2	.069***
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Note. Reference group is female, white child with single mother who has high school education/GED.

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

The Association between Supportive Coparenting and Father Engagement

Similarly, a multiple regression was conducted to test the association between supportive coparenting and father engagement at age one (see Table 5). The results suggest that supportive coparenting was significantly and positively associated with father engagement ($\beta = .35$, $p < .001$). Specifically, mothers who reported higher levels of supportive coparenting behavior also reported higher levels of father engagement with their children. Results also suggest that the level of father engagement did not differ between minority and white families ($\beta = -.02$, ns).

Table 5

Supportive Coparenting as a Predictor of Father Engagement

Variable	B	SB	β
Child sex	.230	.072	.075**
Child minority	-.055	.087	-.016
Infant temperament	-.037	.035	-.025
Married or cohabiting	.924	.087	.270***
Mother education<high school	.114	.093	.035
Mother education>high school	-.004	.092	.001
Supportive coparenting	9.334	.665	.348***
R^2		.265***	

Note. Reference group is female, white child with single mother who has high school education/GED.

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

The Association between Father Engagement and Mother-Child Attachment

Preliminary result of partial correlation in the link between father engagement and mother-child attachment did not reach significance for the entire sample. Thus, regression analyses were restricted only to Hispanic families, as the correlation was significant only for this race/ethnic group.

A multiple regression analysis was conducted to examine the association among these constructs for Hispanic families. The results suggest that father engagement at age one was significantly and positively associated with mother-child attachment ($\beta = .12, p < .05$) at age three among Hispanic families (see table 6). Specifically, higher level of father engagement was an important resource for maternal parenting domain predicting secure mother-child attachment relationships among Hispanic families in the U.S.

Table 6

Father Engagement as a Predictor of Mother-Child Attachment among Hispanic Families
($N=332$)

Variable	B	SB	β
Child sex	-.040	.028	-.076
Infant temperament	-.018	.013	-.074
Married or cohabiting	-.053	.038	-.079
Mother education<high school	-.106	.036	-.201**

Mother education>high school	.039	.039	.067
Father engagement	.020	.010	.121*
R^2		.093***	

Note. Reference group is female child with single mother who has high school education/GED.

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

Mediating Role of Father Engagement in the Link between Supportive Coparenting and Mother-Child Attachment

It was hypothesized that the association between supportive coparenting and mother-child attachment would be mediated by father engagement. Based on Baron and Kenny's (1986) criteria for mediation, the following conditions had to be satisfied: (a) supportive coparenting should predict father engagement, (b) father engagement should predict attachment, (c) supportive coparenting should predict attachment, and (d) the relation between supportive coparenting and mother-child attachment should be reduced or eliminated when both coparenting and father engagement were entered together into the model. Because father engagement was not significantly associated with mother-child attachment (the path b- in the link between the mediator and the outcome variable) across whole sample, no test of mediation was conducted across the whole sample.

Based on the follow-up analyses by race/ethnicity sub-group, as previously shown (see table 5), the criterion for a triadic pattern of significant associations was met among Hispanic families. Therefore, test of mediation was conducted among Hispanic families. In Step 1 of the model, the attachment outcome was regressed on supportive coparenting and all the control variables. In Step 2, father engagement was added as an independent predictor of attachment.

The association between supportive coparenting and father engagement was also evaluated in a separated model.

As previously indicated, the hierarchical regression model included controls for child sex, infant temperament, family structure, and maternal education. The results from hierarchical multiple regression suggest that the previously significant association between supportive coparenting and mother-child attachment ($\beta = .35, p < .001$) (in Step 1), was no longer significant in Step 2 ($\beta = .09, ns$) when both coparenting and father engagement were entered together into the model (see table 7). However, after entering both coparenting and father engagement in the model, the association between father engagement and attachment (path b) was not significant (see figure 2). Therefore, the second criterion for mediation (an association between father engagement and attachment) was not satisfied, and a formal test of mediation was not conducted among these families.

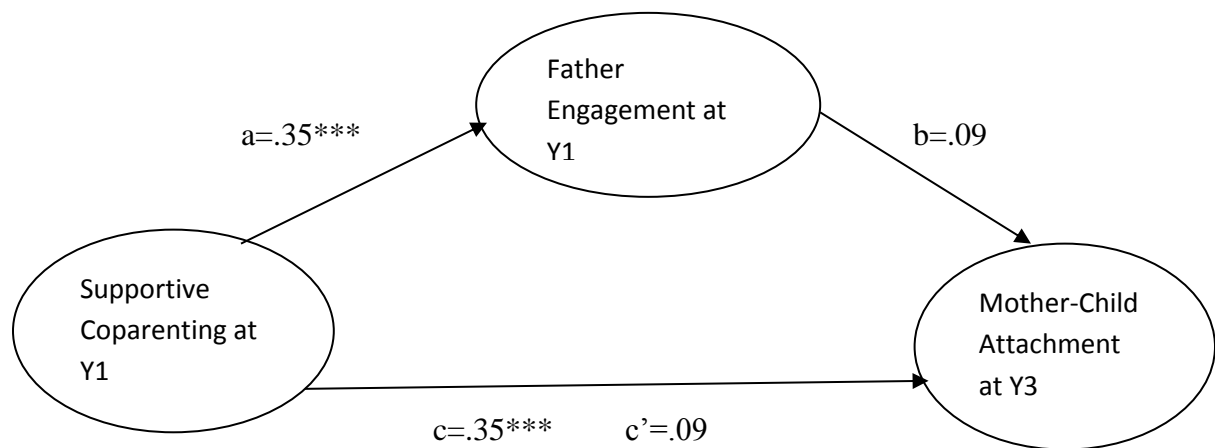


Figure 2. Father Engagement as a Mediator of the Link between Supportive Coparenting and Mother-Child Attachment among Hispanic Families (N=332)

Table 7

Father Engagement as a Mediator in the Link between Supportive Coparenting and Mother-Child Attachment among Hispanic Families (N=332)

Variable	Step 1			Step 2		
	B	SB	β	B	SB	β
Child sex	-.033	.028	.074**	-.040	.028	-.076
Infant temperament	-.017	.013	-.018	-.017	.013	-.070
Married or cohabiting	-.054	.038	.270***	-.066	.039	-.099
Mother education<HS	-.117	.036	.001	-.112	.036	-.214**
Mother education>HS	.032	.040	-.001	.033	.040	.057
Supportive coparenting	.555	.257	.350***	.417	.273	.092
Father engagement				.015	.010	.089
R^2 or ΔR^2		.093***			.006	
F change		5.568***			2.158	

Note. Reference group is female child with single mother who has high school education/GED.

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

Moderation Analyses by Race/Ethnicity

Additional regression analyses were conducted to explore whether race/ethnicity moderated the associations between supportive coparenting and father engagement. Interaction terms were computed by calculating the product of father engagement (centered to reduce multicollinearity) and race/ethnicity (coded as a dummy variable; i.e., minority = 1 (African American and Hispanic) and white = 0). Separate regression equations were created to test the

degree to which the interaction variable (supportive coparenting *race/ethnicity) was predictive of father engagement with their children.

The first step of equation included control variables, the centered predictor (supportive coparenting), and a moderator (minority dummy). The interaction term [(the supportive coparenting; centered) * minority dummy] was entered at the second step of the regression. At each step, the significant change in R^2 was assessed to determine the contribution of each block of variables. The interaction accounted for an additional 2% variance in father engagement ($F(8, 1361) = 60.08, p < .001$), with the full model accounting for 26.5% of the variance in father engagement with their children ($F(7, 1362) = 70.25, p < .001$).

As indicated in step 1 (see table 8), supportive coparenting was a significant predictor of father engagement ($\beta = .35, p < .001$). In step 2, the interaction effect of supportive coparenting and race/ethnicity was significantly and negatively associated with mother-child attachment ($\beta = -1.13, p < .05$) suggesting that the association between supportive coparenting and father engagement was weaker for minority families compared to white families.

Table 8

Hierarchical Regression in the Link between Supportive coparenting and Father Engagement moderated by Race/Ethnicity

Variable	Step 1			Step 2		
	B	SB	β	B	SB	β
Child sex	.230	.072	.075**	.231	.071	.075**
Child minority	-.055	.087	-.016	3.867	1.950	1.109*
Infant temperament	-.037	.035	-.025	-.034	.035	-.023

Married or cohabiting	.924	.087	.270***	.922	.087	.269***
Mother education<HS	.114	.093	.035	.114	.093	.035
Mother education>HS	-.004	.092	-.001	-.007	.092	-.002
Supportive coparenting	9.344	.665	.348***	11.519	1.293	.429***
Minority*coparenting				-2.858	1.457	-1.962*
R^2 or ΔR^2		.265***			.002*	
F change		70.25***			3.848*	

Note. Reference group is white, female child with single mother who has high school education/GED.

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

The significant interaction was graphed via ModGraph (Jose, 2003). Follow-up analyses of the interaction were probed as recommended by Aiken and West (1991). Post hoc testing of the significant interactions consisted of testing the significance of simple slopes of regression lines. The simple slope for white families was significant ($b = .11.519$, $t(1367) = 210.31$, $p < .001$) whereas simple slope for minority families was not significant ($b = 8.661$, $t(1367) = 4.03$, $p > .05$). As shown in Figure 2, the simple slope for white groups is steeper than the simple slope for minority groups, indicating that the association between supportive coparenting and father engagement is stronger among white families and weaker among minority families.

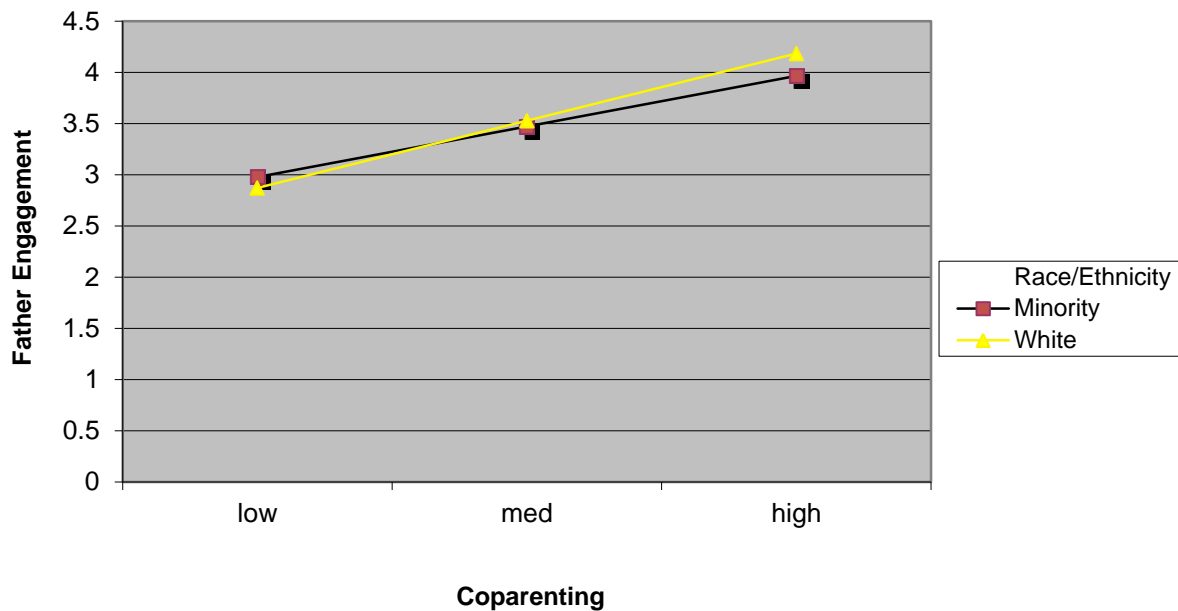


Figure 3. *Line Graph of Interaction between Race/Ethnicity and Supportive Coparenting as Predictors of Father Engagement*

Similarly, the next set of regression analyses explored whether race/ethnicity moderated associations between father engagement and mother-child attachment. A hierarchical regression analysis was conducted on the dependent variable of mother-child attachment. Interaction terms were computed by calculating the product of father engagement variables (centered to reduce multicollinearity) and race/ethnicity dummy variables (coded as minority vs. white dummy). Separate regression equations were created to test the degree to which the interaction term (father engagement; centered *race/ethnicity) predict attachment. The results suggest that the link between father engagement and attachment does not differ between white versus minority status, but as previously demonstrated, analyses by subgroup suggest that this link only exists for Hispanic families.

Discussion

The present study highlights the importance of supportive coparenting and father engagement during infancy for mother-child attachment at age three within an at-risk sample. In particular, the findings of the present study contribute to a growing body of research demonstrating that multiple levels of family functioning are linked to the quality of mother-child relationships (Brown et al., 2010; Caldera & Lindsey, 2006; Feinberg, 2002; Frosch et al., 2000; McHale et al., 2008). Overall, results suggest that supportive coparenting is predictive of father engagement and mother-child attachment across all race/ethnic groups. This study also advances the previous literature in the link among supportive coparenting and father engagement by exploring the moderating role of race/ethnicity. In particular, findings suggest that the link between father engagement and mother-child attachment was significant only among Hispanic families. In addition, the study also found differences in the mean levels of father engagement and attachment security such that the mean score on the attachment Q-sort and father engagement was significantly lower among minority children as compared to white children. Thus, it could be possible that minority families in the U.S. may be exposed to culturally specific experiences and also could be influenced by the negative effects of economic hardship in predicting children's socioemotional outcomes (Bakermans-Kranenberg et al. (2004).

As was hypothesized, higher levels of supportive coparenting were positively and significantly associated with more secure mother-child attachment relationships across racial/ethnic groups. Thus, consistent with prior studies (Brown et al., 2010; Caldera & Lindsey, 2006), children from families exhibiting higher levels of supportive coparenting relationships among their biological parents during infancy were more likely to be securely attached with their mothers during the toddler years. This finding supports a family systems perspective on

attachment and suggests that family functioning at the triadic level (i.e., supportive coparenting relationship) may directly influence the quality of dyadic parent-child relationships (Cowan, 1997, Cowan, Cohn, Cowan, & Pearson, 1996). Moreover, supportive coparenting behavior during infancy independently contributed to mothers' perception of attachment security with their toddlers. In addition, this finding adds to the previous literature in suggesting that clinicians and practitioners should acknowledge the importance of a strong coparenting alliance in predicting children with a sense of felt security (Caldera & Lindsey, 2006; Feinberg, 2003; Feinberg et al., 2009; McHale, 1995; McHale & Irace, 2011).

As predicted on the basis of previous evidence (Carlson et al., 2008; Fagan & Palkovitz, 2011, Hohmann-Marriott, 2011; Soboleski & King, 2005), the present study also found that supportive coparenting was a unique predictor of father engagement with their infant. Specifically, higher levels of supportive coparenting were positively associated with father engagement across all three race/ethnic groups. This finding is also consistent with prior research and systems theory perspectives that emphasize the role of the coparenting relationship in shaping father involvement with their children (Feinberg, 2003; Jia & Schoppe-Sullivan, 2011; Minuchin, 1974). Specifically, in keeping with its theoretical status as the family's "executive subsystem", the coparenting relationship was linked to father engagement with their children during the infancy period. In addition, even in fragile families, mothers may receive support for their young children through the recruitment of non-residential fathers, father figures, and grandparents in the provision of resources and care (Roy & Burton, 2007). The present study also advances the prior research that has focused on the effects of family structure using the sample from FFCW study (Carlson et al., 2008; Fagan & Palkovitz, 2011), by exploring the associations among these constructs across diverse race/ethnic groups.

Contrary to my expectation, father engagement was not a significant predictor of mother-child attachment across all three race/ethnic groups. This finding might support previous work suggesting father engagement is more strongly related to their child's socio-cognitive development rather than socio-emotional development (Easterbrooks and Goldberg, 1984). These findings may also reflect the importance of socialization and cultural differences in adaptation and family functioning. For example, in minority families, particularly in non-traditional family structures, single mothers may have extended support networks (e.g., kinscription of fathers and father figures and involvement of multigenerational units) who contribute to the parenting and socializing of their children (Garcia Coll et al., 1996, Roopnarine, 2004; Roy & Burton, 2007). Thus, it may be the engagement of these figures, not the biological father, which contributes to mother-child attachment.

Interestingly, however, the follow-up analyses by race/ethnicity suggest that father engagement was significantly associated with mother-child attachment among Hispanic families. These findings are compatible with a study by Cabrera and Bradley (2012) that examined Latino fathers and their influence on child well-being. Through the use of a heuristic model of father involvement in Latino families, Cabrera and Bradley (2012) suggest that father engagement could be directly linked to child wellbeing as well as indirectly with mother-child relationships through its association with maternal sensitivity. In addition, findings are closely related with many contemporary researches on Latino families in which cultural values such as familism, and machismo are important for Latino fathers, they show more warmth and spend more time caring for their children than do white fathers (Cabrera et al., 2011; Hofferth, 2003; Roopnarine & Ahmeduzzaman, 1993; Toth & Xu, 1999). Thus, the results of the present study highlight the

significance of father engagement for the mother-child attachment relationship among Hispanic families.

Based on Baron and Kenny's (1984) criteria for mediation, the present study also examined father engagement as a mechanism through which supportive coparenting impacts mother-child attachment among Hispanic families. Based on theoretical frameworks and empirical investigations, fathers influence their children directly in forming secure father-child attachment (Lamb, 2002; Wong et al., 2009) and developing children's social competence and cognitive abilities (Black et al., 1999; Lamb & Lewis, 2004; Shannon et al., 2002; Tamis-Lemonda et al., 2004). In addition, fathers may influence their children indirectly especially by influencing maternal parenting behaviors (Pleck, 2007; Kalil et al., 2005) as well as being a source of economic and an emotional support in child rearing (Lamb, 2010; Lamb & Tamis-Lemonda, 1981). However, the findings of the present study did not support the indirect role of father engagement for mother-child attachment. More specifically, results suggest that father engagement was not a mediator in the link between supportive coparenting and mother-child attachment either across the whole sample or in Hispanic families. Indeed, these results support the significance of complex nature and interdependencies of relationships among variables within the family system and across race/ethnic groups. Parent-child attachment was assessed using the Attachment Q-Sort methodology during in-home assessment with mother. However, the AQS represents an assessment of parent's self perceptions of their child's attachment behavior rather than an objective assessment of parent-child attachment. Moreover, some research suggests that the AQS may be more valid for determining father-child attachment relationship than the Strange Situation assessment (Ainsworth et al., 1978) for determining the quality of the father-child attachment relationship (Volling & Belsky, 1992). In addition, based

on the previous researches, father engagement could be more proximally and significantly associated with father-child attachments as compare to mother-child attachments across race/ethnic groups (Caldera, 2004; Cook et al., 2009).

Moderating role of Race/Ethnicity

Based on prior research on ethnic differences in the levels of father engagement (Cabrera et al., 2008; Gibson-Davis & Gassman-Pines, 2010; Hossain & Roopnarine, 1994; Pleck & Masciadecelli, 2004; Roopnarine, 2004; Roopnarine & Ahmeduzzaman, 1993), the present study further hypothesized that race/ethnicity would moderate the effects of supportive coparenting on father engagement, and the effects of father engagement to mother-child attachment, such that the link would be stronger for minority families as compared to white families. Contrary to the prior studies, findings suggest that the mean scores on father engagement were significantly higher among white families as compare to minority families. The present study supported the moderational hypotheses only in the link between supportive coparenting and father engagement. However, the moderating role of father engagement to mother child attachment as a function of race/ethnicity was not supported.

Contrary to the expectations, the present study found the strongest associations between supportive coparenting and father engagement for white families as compared to minority families. One possible explanation for this race/ethnic difference is that strong coparenting support is simply an effective proxy for white fathers to be engaged with their children irrespective of their residential status with their children, whereas minority fathers may only be more engaged when the father lives with the child (King, Harris & Heard, 2004; Tamis-Lemonda et al., 2009). Because of its (coparenting) proximity to the child, it is more closely related to parent-child relationships and child wellbeing than other aspects of the interparental relationship

(Feinberg, 2003). On the other hand, these associations might be different among minority race/ethnic groups due to differences in their familial and cultural values, quality of mother-father relationships and their extended family networks (Cabrera et al., 2008; Garcia Coll et al., 1996). For example, lower levels of couple relationship quality consistently predicted less father engagement in caregiving and physical play among African American fathers (Cabrera et al., 2011). Also, more than a third of children born from fragile families and visiting is the dominant arrangement of father-child contact among these poor minority families (Mincy & Oliver, 2003) such that other contextual variables might play important role in predicting the mother-child attachment through father engagement. Because fathers, especially African American fathers, have been perceived to be absent (or nonresident) from their children lives (Cabrera et al., 2008; Mincy & Oliver, 2003), future studies on this topic should focus on the father's education level/resources, mother-father relationship quality and other contextual factors both across and within racial/ethnic groups.

Research also suggests that fathers with greater resources (e.g., education and income) will invest more time, money, and will be highly involved with their children as compare to parents with fewer resources (Haveman & Wolfe, 1994). Since white families, even those who are low income have on average, have higher levels of education and greater economic resources, white children are more likely to have access to social and economic resources than minority children (Huang, Mincey, & Garfinkel, 2005). In contrast, the lower level of fathers education among minority fathers is associated with a greater likelihood of non-marital childbearing and is linked to lower levels of father engagement (King et al., 2004). Thus, it could be possible that the link between coparenting and father engagement is stronger among families where resources are higher and fathers have more contact with children even if they are not

living with them. This situation would favor white families over minority families. Although the present study use data from the maternal reports and maternal demographics, future studies should examine the strength of the link among these constructs with a particular focus on father race/ethnicity and father's demographic characteristics.

Limitations

Although the present study advances our knowledge in the literature by examining the links among supportive coparenting, father engagement, and mother-child attachment in a single model across race/ethnic groups, there are a number of limitations of this study. First, several methodological issues of this study should be considered in interpreting these findings. All measures were taken from maternal self-report data. Thus, it is not surprising that coparenting is closely related to father engagement, as the measures for these constructs were collected at the same time and may be reflect shared method variance. Also, because the AQS is not an objective assessment of parent-child attachment, it is possible that the mothers' tendencies toward socially desirable responses may have resulted in higher levels of reported attachment security.

Observational measures of the study variables would provide more relevant assessments of the impacts of triadic (coparenting) and dyadic (father-child) relationships with mother-child attachment security and possibly reduced the shared method variance. Also, the failure to find the link among these constructs may reflect inadequacies in the self-report measures themselves.

Another limitation is that because of the large number of missing data on father's reports of their own engagement, the present study relied instead on maternal reports of father engagement. Mothers may underreport fathers engagement with their children or may not know how often fathers engage in certain activities, as this study draws sample from diverse family structure. In addition, rather than focusing on both the quantitative and the qualitative aspects of

father involvement, the present study used mothers' reports on the quantitative aspects of father engagement based on the nature of the data. However, the more intensive father-child interaction and qualitative aspects of father's engagement might be more important in parent-child relationships because the initial formulations of quantitative aspects of engagement component grounded in time use methodology and focused on all interaction time with child (Pleck, 2010). Moreover, consistent with the Bowlby's conceptualization of the mother as a primary caregiver (1969), the FFCW study only measured the mother-child attachment relationship. Thus, it is likely that father-child attachment may have been more directly influenced by father engagement than mother-child attachment.

The current study failed to support father engagement as a mediator of the link between supportive coparenting and mother-child attachment. Although, the current study exclusively focus on father engagement as a mechanism through which supportive coparenting influences attachment, several other research indicated other subsystems in the family (such as the quality of mother-father relationship or marital quality) may be particularly important phenomena that might have crucial impact on mother-child attachment relationships and child emotional outcomes across race/ethnic groups (Cabrera & Bradley, 2012; Schoppe et al., 2002). Thus, is it is possible that other mechanisms, such as marital quality) may mediate or moderate the associations among these constructs. Another limitation of the present study is the use of white families as the reference group. While this is a common practice in research, such a model does not include other salient factors reflecting the potential strengths of minority families. Finally, this study is also limited in generalizability across race/ethnic groups of at-risk families because of its select sample of urban low-income families in the United States, which is not a nationally representative sample.

Conclusions

Despite these limitations, the present study has provided important understanding in the associations among supportive coparenting, father engagement and mother-child attachment across diverse race/ethnic groups of low income families. Although maternal sensitivity and mother-child interaction have been viewed as a strong predictors and mechanisms for predicting mother-child attachment (Ainsworth et al., 1978; Caldera & Lindsey, 2006; De Wolff & Van Ijzendoorn, 1997), the present study advances the previous work by exploring how father engagement and supportive coparenting predict mother-child attachment based on diverse race/ethnic groups. To my knowledge, this is the first study in the link between supportive coparenting and mother-child attachment with particular role of father engagement across race/ethnic groups. Perhaps the most noteworthy finding is that supportive coparenting is a strong predictor of mother-child attachment across race/ethnic groups. Interestingly, findings also indicate the link among supportive coparenting and father engagement varied by race/ethnicity, such that the link was stronger for white families as compared to minority families. Because minority families in the U.S. might be exposed to specific economic/cultural constraints, and have differential family arrangements than their white counterparts, the variation in the levels of father engagement through supportive coparenting might be different across these groups. In addition, father engagement was predictive of mother-child attachment only among Hispanic families. Therefore, the particular social, cultural and economic context including nonstandard family arrangements might influence mother-child attachment relationships, which need to be addressed further.

The results of this study also support a family systems perspective that views each family member as being a part of multiple subsystems and each system as having an impact on other

system. Clinicians can use these results to inform interventions among families with attachment disorders by considering the particular role of coparenting and father engagement associated with other contextual factors. Further study is needed to replicate these findings and to test additional hypotheses about mother-child attachment across diverse race/ethnicity. In light of the consistent link across family structure, this study tested a unidirectional effect from supportive coparenting to father engagement across three race/ethnic groups. Indeed, additional longitudinal studies are needed to better understand the bidirectional link of these constructs and between different relationships subsystems within the family across diverse race/ethnic groups.

Implications

Overall, the results of the present study have several important implications at the policy level and for practitioners to foster supportive coparenting, positive father engagement and healthy mother-child relationships. Interventions targeting coparenting and parenting across the early years (i.e., transition to parenthood and across toddler and preschooler years) may be particularly helpful in helping parents' better deal with stressors and behavioral issues of their children (Feinberg, 2003; Gordon & Fieldman, 2008). To the extent that coparenting enhances parental efficacy and demonstrates enhanced levels of sensitivity and appropriate limit setting (Feinberg 2003; McHale & Irace, 2011), the present study highlighted the importance of the triadic setting (coparenting relationship) as a unique context in forming secure mother-child attachments. Thus, clinicians can utilize these findings to strengthen the coparenting alliances and to enhance family cohesiveness in dealing with issues of attachment. More specifically, clinicians working with families of young children may understand the importance of supportive coparenting alliances across coparenting adults during infancy and its synchronized effect in

forming secure attachment relationships across toddler years. Mothers can also learn that mutuality toward their partners is central for enhancing father engagement with their infant, particularly during first stages of parenting and family formation. Although research on coparenting is limited in the area of racial/ethnic diversity (Feinberg, 2003), coparenting systems are critically important for positive father engagement and secure attachment relationship including both short-term and long-term adjustment of their children across race/ethnic groups.

Furthermore, the results of such studies should have important theoretical and methodological implications for the direct and indirect contributions of father engagement in mother-child relationships, particularly attachment security. Due to the fact that mothers' and fathers' romantic involvement and living arrangements may vary (Fagan & Palkovitz, 2011; CRCW, 2008), fathers in fragile families can play important roles in mother-child relationships. Because the quality of the father's relationship with the child's mother is the single most powerful predictor of fathers' engagement with their children (P.A. Cowan, Cowan, Cohen, Pruett, & Pruett, 2008, p.54), and would be an important pathway for father engagement and child wellbeing (Fagan & Palkovitz, 2011; Cowan, Pruett, Pruett, and Wong, 2009), especially for Latino fathers (Cabrera & Bradley, 2012), further research should explore the full range of potential couple relationship and coparenting dynamics in father engagement and mother-child attachment across different race/ethnic groups, in particular among Hispanic families. Some research has focused on promoting father involvement in children's lives such that results suggest couple-based interventions were more successful than father-only interventions among Mexican American and white families (P. A. Cowan, Cowan & Heming, 2005, P. A. Cowan et al., 2008; Cowan et al., 2009).

In sum, the findings of this study clearly indicate the need for further examination of the role of multiple dimensions of coparenting and father involvement and other contextual factors in attachment outcomes within diverse race/ethnic groups. Clinicians can also use the results to heighten their awareness about the contextual factors influencing parent-child relationships and be able to consider and take the most appropriate course of intervention.

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Appendix A- Questionnaires

Survey Questionnaires

Associations among Supportive Coparenting and Father Engagement to Mother-Child

Attachment

Demographic Characteristics

1. What is your baby's sex? Male....1 Female.....2

2. Which of these categories best describes your race?

White, European American..... 1

Black, African-American 2

Hispanic3

Others.....4

3. What is your relationship with Father now? Are you . . .

Married..... 1

Romantically Involved 2

Separated or divorce3

Just friends.....4

Not in any kinds of relationship..... 5

Father not Known-13

Father's died-14

4. Are you and Father currently living together ?

All or most of the time..... 1

Some of the time..... 2

Rarely.... 3

Never.... 4

Rarely/never 203

5. Total numbers of adults in household?

6. Total numbers of kids in household?

7. Please think of your household income from all sources. What was your total household income in a range for the last year before taxes?

Less than \$5,000, 1

\$5,001 to \$10,000, 2

\$10,001 to \$15,000, 3

\$15,001 to \$20,000, 4

\$20,001 to \$25,000, 5

\$25,001 to \$30,000, 6

\$30,001 to \$40,000, 7

\$40,001 to \$60,000, or 8

More than \$60,000? 9

DON'T KNOW -2

REFUSED -1

8. What program or schooling have you completed? (circle all that apply)

Regular High School 1

ABE or GED Program 2

ESL Program..... 3

Nursing School (LPN OR RN) 4

Business or secretarial school.....5

Program to improve reading.....6

Vocational/technical/trade school.....	7
Job Corporation.....	8
Junior/community College (2-Year).....	9
College (4 year).....	10
Other types of school (not specified).....	11
Other types of training not specified.....	12
Program to learn job skills	13
Program to help get a job	14
Some college.....	15
Graduate or professional school	16

9. Child Temperament

Now I am going to read some statements about childhood behavior. Using a scale from 1 to 5, where 1 means not at all like your child, 5 means very much like your child, and 2, 3, and 4 mean somewhere in between, tell me how well each statement describes Child.

Items	1	2	3	4	5
1 He/she often fusses and cries					
2 He/she gets upset easily					
3 He/She reacts strongly when upset					

10. Supportive Coparenting at age one

The following questions are about how parents work together in raising a child. Please tell me how often the following statements are true for you and father.

Note: Response Category: 1= Always True, 2 = Sometimes True, 3= Rarely True, & 4= Never True

Items	1	2	3	4
1 When father is with child, he acts like the father you want for your child				
2 You can trust father to take good care of child				
3 He respects the schedules and rules you make for child				
4 He supports you in the way you want to raise child				
5 You and (FATHER) talk about problems that come up with raising child				
6 You can count on father for help when you need someone to look after child for a few hours				

11. Father Engagement at age one

Now I would like to ask you some questions about things father does with Child. For each activity, please tell me how many days a week he usually does this in a typical week. Record never as "0".

Items	0	1	2	3	4	5	6	7
1 Play games like "peek-a-boo" or "gotcha" with child								

- 2 Sing songs or nursery rhymes to child
- 3 Read stories to child
- 4 Tell stories to child
- 5 Play inside with toys such as blocks or legos with child
- 6 Take child to visit relatives
- 7 Change his/her diaper
- 8 Feed or give a bottle to him/her
- 9 Hug or show physical affection to child
- 10 Put child to bed

12. Mother-Child Attachment: Q-Sort in-home with mother

For each items, I would like you think about the description applies with your child.

Response Options: 1 = Applies mostly (pile 1a), 2 = Applies often (pile 1b), 3 = Undecided, quick reread for possible shift to either side (pile 2), 4 = applies sometimes (pile 3a), and 5 = applies rarely or hardly ever (pile 3b).

Items:

1. Cooperates willingly with mother and passes things if asked
2. Is very clingy
3. Seeks and enjoys being hugged by mother
4. If asked child lets friendly strangers hold and share playthings

5. Actively ignores visitors and finds own activities more interesting
6. Generally finds something else to do when finished w/an activity and does not go to mother for help
7. When child sees something desirable to play with, child will fuss
8. When child cries, cries loud and long
9. Rarely goes to mother for any help
10. Gets upset if mother leaves or shifts to another place
11. Hugs or cuddles with mother without being asked to do so
12. If there is a choice child prefers to play with toys rather than friendly adults
13. When others asks child to do something, child readily understands what is wanted but may not obey
14. Child easily becomes angry at mother
15. Cries as a way of getting mother to do what is wanted
16. When child is bored will go to mother looking for something to do
17. Enjoys copying what friendly strangers do
18. Turns away from friendly adult strangers if they come too close
19. Obeys when asked to bring or give something to mother
20. Explores freely in new unfamiliar places
21. Is content to be alone without mothers involvement playing or watching tv
22. When mother does not do what child wants right away child gets angry
23. Wants to be center of attention
24. When upset by mothers leaving is hard to comfort by friendly adult strangers
25. A social child who enjoys the company of others

26. Is easily comforted by contact or interaction with mother when crying or otherwise distressed
27. Protests or interrupts if mother shows affection to other people including family members
28. Relaxes when in contact with mother
29. Is fearless (approaches things and people without hesitation)
30. Enjoys being hugged or held by friendly adult strangers
31. Responds positively to helpful hints from mother
32. When mother talks with anybody else child seeks mothers attention
33. If wary pulls back or freezes but does not go looking for mother for comfort or reassurance
34. When child is upset after mother leaves will sit and cry without attempting to follow
35. Is very independent
36. Eager to join in with friendly adult strangers
37. When mother says follow child does so willingly
38. Cries or otherwise tries to prevent separation if mother is leaving or moving to another place
39. Often wants mothers attention

Appendix B- SU IRB Approval Letter



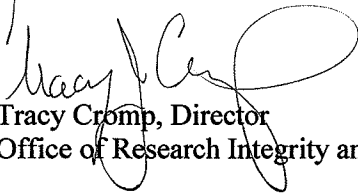
SYRACUSE UNIVERSITY
Office of Research Integrity and Protections
MEMORANDUM

TO: Rachel Razza
DATE: August 26, 2011
SUBJECT: IRB Review Not Required
IRB #: 11-224
TITLE: *Attachment Security Among Toddlers: Impact of Coparenting Support and Father Involvement*

It has been determined by the Office of Research Integrity and Protections that the information submitted pertaining to the above referenced protocol does not meet the definition of human subjects research ("a systematic investigation, including research development, testing and evaluation, designed to develop or contribute to generalizable knowledge involving any intervention or interaction with a living individual about whom an investigator conducting research obtains data through an intervention or interaction, or identifiable private information.") and does not require IRB oversight.

Should there be any change in the nature of the activity originally proposed (e.g. testing results used for research purposes), a new protocol application specific to these changes must be submitted. Thank you for your cooperation in our shared efforts to assure that the rights and welfare of people participating in research are protected.

Sincerely,



Tracy Crompton, Director
Office of Research Integrity and Protections

***Note to Faculty Advisor:** This notice is mailed to faculty. If a student is conducting this study, please forward this information.*

DEPT: Child & Family Studies, 426 Ostrom Ave.

STUDENT: Sangita Pudasainee-Kapri

Office of Research Integrity and Protections
121 Bowne Hall ♦ Syracuse, New York 13244-1200
(Phone) 315.443.3013 ♦ (Fax) 315.443.9889
orip@syr.edu ♦ www.orip.syr.edu

VITA

Sangita Pudasainee-Kapri
Graduate Student, Syracuse University

Contact Information: Department of Child and Family Studies
Syracuse University
426 Ostrom
Syracuse, NY, 13244
Phone (315) 396-7903 (Cell)
E-mail: spudasai@syr.edu

EDUCATION

Doctor of Philosophy in Child and Family Studies, Syracuse University, Expected in 2015

Master of Science in Child and Family Studies, 2012

Syracuse University, David B. Falk College of Sports and Human Dynamics, Department of Child & Family Studies, Syracuse NY.

Thesis Title: Attachment Security Among Toddlers: The Impacts of Supportive Coparenting and Father Engagement

Thesis Advisor: Rachel Razza, PhD.

Bachelor's Degree in Nursing (BN in Community Nursing), 2007

Tribhuvan University, Institute of Medicine, Maharajgunj Nursing Campus, Kathmandu, Nepal.

Bachelor's Degree in Health Education, 2005

Tribhuvan University, Gorkha Campus, Gorkha, Nepal.

HONORS AND AWARDS

Awarded Graduate Student Master's Prize 2012, The Graduate School of Syracuse University

Awarded Syracuse University Graduate Fellowship 2012-2013, The Graduate School of Syracuse University

Awarded Syracuse University Graduate Assistantship, 2010-2012, David B. Falk College of Sport and Human Dynamics, Department of Child and Family Studies, Syracuse University

PROFESSIONAL EXPERIENCES

Teaching Assistant

Working as a Teaching Assistant in the Department of Child and Family Studies and assisted in teaching undergraduate students:

- **Fall 2011- Spring 2012:** CFS 204, Research Methods in Child & Family Studies (For Professor Kamala Ramadoss)
- **Spring 2011 & Spring 2012:** CFS 447, Principles and Practice in Parenting (For Professor Rachel Razza)
- **Fall 2011:** CFS/SOC/WGS 422, Work & Family in 21st Century (For Professor Kamala Ramadoss)
- **Spring 2011:** CFS 365, Language Development in Children & Families (For Professor Robert Moreno)
- **Fall 2010:** CFS 345, The Developing Infant (For Professor Rachel Razza)
- **Fall 2010:** CFS 358, Pro-Social & Moral Development (For Professor Alice Honig)

Teaching Experience

March 2005-May 2005: Mahendra Jyoti Higher Secondary School, Gorkha, Nepal

- Teaching “Health, Population and Environment” to Secondary Level students

August 2006- October 2006: Maharajgunj Nursing Campus, Kathmandu, Nepal

- Teaching ‘Integrated Science Related to Health’ to the Proficiency Certificate Level Nursing students
- Guiding and supervising Proficiency Certificate Level students during their clinical placement in surgical unit for 8 weeks period.
- Evaluating student performance in classroom and clinical settings and reporting to the coordinator.