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The impact of mothers' partner relationship quality and maternal parenting on school-age children's relationships with peers

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The Impact of Mothers' Partner Relationship Quality and Maternal Parenting on School-Age
Children's Relationships with Peers

by

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Thesis

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ABSTRACT

This study examined the longitudinal effects of the partner relationship quality on parenting behaviors and school-age children's peer relationships. National Institute of Child Health and Human Development (NICHD) archival data were used to examine parenting behaviors as a mediator between the quality of the partner relationship and school-age children's peer relationships. Maternal report was used to assess partner relationship quality when the child was 1 month old; an observed parent-child interaction task was used to measure maternal parenting behaviors when the child was 54 months old; and teacher and child report were used to assess children's peer relationships during 5th grade. Maternal parenting behaviors partially mediated the association between partner quality and children's negative outcomes with peers and fully mediated this association when partner change was controlled for. Mediation was not established for children's positive outcomes with peers. Results are discussed in terms of the emotional security hypothesis and attachment theory.

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Introduction

Introduction and Background

Because children are dependent on their caregivers, children of all ages are exposed to the quality of the marital or partner relationship in their homes, including parental conflict (Buehler & Gerard, 2002; Lindsey, Campbell, MacKinnon-Lewis, Frabutt & Lamb, 2002), the quality of conflict resolution (Kitzmann & Cohen, 2003), specific positive or negative interaction behaviors (Katz & Woodin, 2002), physical violence (Jaffe, Wolfe, Wilson & Zak, 1986; McCloskey & Stuewig, 2001), and a lack of support or affection (Cookston, Harrist & Ainslie, 2003). Researchers have also found that couples tend to experience some decline in partner quality, including increased conflict, during the child-rearing years, especially from the transition to parenthood throughout early childhood (Belsky, Lang & Rovine, 1985; Belsky & Pensky, 1988; Belsky & Rovine, 1990; Fantuzzo, DePaola, Lambert, Martino, Anderson, & Sutton, 1991). Consequently, it is necessary to examine the effects of the quality of the partner relationship on young children in particular.

Over the last few decades, an abundance of research has found that problems in the marital relationship lead to maladjustment in children of all ages, such as an increase in internalizing and externalizing problems including depression, anxiety, conduct problems, and aggression, but fewer studies have examined social outcomes in children, such as social isolation and problematic peer relationships (see review by Grych & Fincham, 1990). In addition, the type of adjustment problems a child experiences may depend on the specific developmental tasks faced by the child (Grych & Fincham, 1990). Researchers have proposed different possible explanations for the association between the quality of the marital relationship and poor child outcomes including modeling (Bandura, 1986), poor parenting

practices (Belsky & Jaffe, 2006; Brody, Arias & Fincham, 1996; Keller, Cummings & Davies, 2004; Levendosky & Graham-Bermann, 1998; 2000; 2001), a child's emotional insecurity (Davies & Cummings, 1994), and a child's attributions and understanding of the conflict (Grych & Fincham, 1990). However, more research is needed to understand the causal pathways between the quality of the partner relationship and child maladjustment.

One specific model that has been supported by the current literature has suggested that the overall quality of the parent-child relationship, including specific parenting behaviors such as hostility (Stocker & Youngblade, 1999) and harsh discipline (Gerard, Krishnakumar & Buehler, 2006), as well as the parent's and child's perceptions of the parent-child relationship (e.g., Du Rocher Schudlich, Shamir & Cummings, 2004), mediates the association between the quality of the marital relationship and child maladjustment (Davies & Cummings, 1994). In an attempt to find further support for this theory and improve upon prior studies' limitations, the current study examined whether parenting behaviors mediated the relationship between the quality of the marital or partner relationship and the quality of a school-age child's peer relationships. Only recently have researchers begun to study the association between a child's family environment and peer relations (Stocker & Youngblade, 1999; Vandewater & Lansford, 1998). However, it is necessary to understand this association because an important developmental task for children in their first years of school is the ability to establish friendships with other children, and their ability to form quality relationships with peers may be a useful indicator of a child's overall psychosocial adjustment (Grych & Fincham, 1990; MacKinnon-Lewis & Lofquist, 1996; Parker & Asher, 1987).

Although the literature examining the link between the quality of the marital or partner relationship and peer outcomes has increased in the last few years, most studies conducted have been cross-sectional (Cookston et al., 2003; Dunn, Davies, O'Connor & Sturgess, 2001; Du Rocher Schudlich et al., 2004; El-Sheikh & Elmore-Staton, 2004; Kitzmann & Cohen, 2003; Lindsey et al., 2002; McCloskey & Stuewig, 2001) instead of longitudinal studies. Consequently, this study used longitudinal archive data to examine how the quality of the partner relationship in an infant's home (Phase I) impacted parenting behaviors when the child was preschool-age (Phase II), which was hypothesized to influence a child's relationship with peers during fifth grade (approximately 10-11 years of age; Phase III).

An overview of the emotional security hypothesis (Davies & Cummings, 1994) will be described in the following section, as this theory guided the present study. Then, the relevant literature examining the association between the variables in the proposed mediation model will be reviewed, including (a) the quality of the partner relationship and school-age children's peer relationships, (b) the quality of the partner relationship and the parent-child relationship, and (c) the parent-child relationship and school-age children's peer relationships. Finally, the extant literature examining the mediation model hypothesized in the present study, i.e., the parent-child relationship as a mediator between the quality of the partner relationship and children's peer relationships, will be reviewed.

Theoretical background. The emotional security hypothesis, put forth by Davies and Cummings (1994), is one plausible theory that helps explain how the quality of the partner relationship may lead to a child's maladjustment in peer relationships. This theory was used to help guide the present study. The emotional security hypothesis is based on attachment

theory, which focuses on the emotional bond that develops between a parent and child (Bowlby, 1969), and how children's attachment styles develop as a result of their experiences with their caregivers (Ainsworth, Blehar, Waters & Wall, 1978; Sroufe & Waters, 1977; Sroufe, 1985). For example, parents who provide their children with adequate emotional warmth, responsiveness, and stability are more likely to have a child with a secure attachment style (Ainsworth et al., 1978). In turn, children with more secure attachments are less likely to experience emotional distress, such as fear, and are more likely to have a greater sense of "felt security" when presented with emotionally distressing events in their environment (Bowlby, 1973), such as marital discord. In addition, children's attachments to their caregivers are believed to influence their internal representations, or working models, of themselves and other people (Bretherton, 1985). In other words, children's beliefs about themselves in relation to others, based on attachment to caregivers, generalize to broader working models of relationships and the social environment (Bretherton, Ridgeway, & Cassidy, 1990), which influences social behaviors.

Similar to attachment theory, the emotional security hypothesis argues that a child's emotional security, a specific aspect of emotional functioning defined by the ability to regulate, organize, and respond to emotional arousal, is derived in part from the quality of the parent-child relationship. However, this theory also posits that a child's emotional security is additionally influenced by the quality of the marital relationship. Thus, the marital relationship and parent-child attachment are two distinct, but related, influences on a child's emotional security.

The marital relationship contributes to children's emotional security in a number of ways. For example, a problematic marital relationship may result in a more unpleasant family

life in general (e.g., a negative affective tone in the home) and may directly threaten the child's emotional and even physical welfare. In addition, Davies and Cummings (1994) suggest that children develop separate internal working models based on the marital relationship, which may generalize (similar to working models of the parent-child relationship) to other relationships.

According to Davies and Cummings (1994), children who are emotionally secure about their parents' relationship feel assured about the stability and predictability of marital interactions, expect that marital conflicts will be resolved, and are confident in the emotional and physical availability of their parents. On the other hand, children who are not emotionally secure about their parents' relationship may experience heightened sensitivity to conflict and emotional dysregulation when faced with conflicts of their own, such as in social situations with peers, and they may over-generalize negative internal representations about relationships (leading to cognitive distortions) to relationships with peers (Bretherton, 1985; Davies & Cummings, 1994; Grych & Fincham, 1990).

One final, important way that the marital relationship influences a child's emotional security is through its impact on parenting practices such as the availability of caregivers and specific parenting behaviors (Davies & Cummings, 1994). For example, interparental conflict may leave parents less physically or emotionally available to their children and may lead to more hostility and rejection and less responsiveness (Emery, 1982; Levendosky & Graham-Bermann, 1998; 2000; 2001), which may further promote a negatively arousing environment for children. The presence of marital discord in a child's home is also associated with interruptions in the emotional relationship of the parent and child (Erel & Burman, 1995; Gable, Belsky & Crnic, 1992; Sturge-Apple, Davies & Cummings, 2006).

In turn, negative parenting behaviors toward the child may increasingly threaten children's overall sense of security (Davies, Harold, Goeke-Morey & Cummings, 2002; Harold, Shelton, Goeke-Morey & Cummings, 2004; Smith, Calkins & Keane, 2006) in the social world and lead to reduced social competence (Bell & Ainsworth, 1972; Booth, Rose-Krasner & Rubin, 1991; Davies et al., 2002). For example, lenient and strict parental supervision and discipline, which have been linked to marital discord, have been shown to lead to increased child aggression and delinquency in social situations (Loeber & Dishion, 1984; Weiss, Dodge, Bates & Pettit, 1992); strict discipline, in particular, has been found to result in social withdrawal and poor relations with peers (Crockenberg, 1987; Pettit, Dodge & Brown 1988). In other words, a child may have greater difficulty regulating their emotions because of their threatened sense of security, which may lead to aggression, withdrawal, or anxiety in peer social situations (Kopp, 1982; Cummings & Zahn-Waxler, 1992).

Furthermore, Davies and Cummings (1994) suggest that less emotional security due to marital and parent-child problems may be linked with hyper-vigilance and increased behavioral and emotional reactivity due to physiological changes in the body. When a child is required to maintain high levels of vigilance and arousal due to marital discord and/or negative parent-child interactions, psychological energy is depleted, and children are less capable of effectively regulating their emotions and behaviors. Consequently, children's ability to regulate their emotions can impact their overall psychosocial adjustment within and outside the family, including interactions with siblings and peers (Dodge, 1991).

Importantly, this theory also argues that children's particular experiences with marital interactions have an impact on children's responses to current interactions, e.g., with peers. For example, it has been found that a child's overall emotional security is greatly reduced

after *repeated* exposure to negative marital interactions, such as conflict or violence. In other words, children's prior experiences with conflict, such as the frequency and severity of exposure, may affect how they respond to future interactions. Also, children may be differentially impacted by marital conflict depending upon the type of conflict to which they are exposed (e.g., verbal, physical, emotional withdrawal), as well as the quality of conflict resolution (Davies & Cummings, 1994; Grych & Fincham, 1990). These findings highlight the importance of assessing multiple aspects of the marital or partner relationship.

In conclusion, the emotional security hypothesis argues that a child's emotional security, which is crucial for regulating and responding to emotional arousal, is influenced by both the marital relationship and the quality of the parent-child relationship. The marital relationship may impact children's emotional security in a variety of ways; however, one major proposed mechanism is through parent-child interactions. When there are problems in the marital relationship and in the parent-child relationship, children are left feeling emotionally insecure, which results in reduced social competence with peers and in other emotionally-laden social situations (Davies & Cummings, 1994).

Associations between the quality of the marital relationship and school-age children's peer relationships. Over the past few decades, an abundance of research has found a direct association between the quality of the marital relationship and school-age children's peer relations (Buehler & Gerard, 2002; Cookston et al., 2003; Du Rocher Schudlich et al., 2004; Jaffe et al., 1986; Katz & Woodin, 2002; Kitzmann & Cohen, 2003; Lindsey et al., 2002; McCloskey & Stuewig, 2001; Stocker & Youngblade, 1999). However, different aspects of the marital relationship have been associated with poor peer relations, including marital conflict in general (Buehler & Gerard, 2002; Cookston et al., 2003; Du Rocher

Schudlich et al., 2004; Katz & Woodin, 2002; Stocker & Youngblade, 1999), the resolution quality of marital discord (Kitzmann & Cohen; 2003), and physical violence (Jaffe et al., 1986; McCloskey & Stuewig, 2001).

For example, Kitzmann and Cohen (2003) examined forty 8-12-year-old children and their parents and found that mothers' and children's ratings of the perceived resolution quality of marital conflict, as reported on an adult and child version of the Interparental Conflict Scale (Grych, Seid & Fincham, 1992), were strongly associated with children's self-reported friendship quality and with conflict resolution between the children and their friends. Resolution quality of marital conflict was assessed by having the mother and child indicate whether anger was perceived to remain between spouses once overt arguing had ended. The results from this study can be understood in terms of the emotional security hypothesis: children whose parents are able to resolve conflict consistently are more likely to do the same with their peers and likely have less negative reactions to poor social interactions with peers (Davies & Cummings, 1994).

In another study, Katz and Woodin (2002) examined 126 couples with 5-year-old children by dividing the couples into four groups based on the presence of positive or negative behaviors during a 15-minute observed marital interaction. In this study, negative behaviors included contempt, belligerence, criticism, and stonewalling, and positive behaviors included interest, affection, validation, humor, and listening. Children of hostile-detached couples, or those with negative behaviors during the observed marital interaction, displayed significantly more negative affect and noncompliance during observed interactions with their best friend compared to children of parents who displayed positive behaviors during the marital interaction, termed conflict-engaged couples. This study shows that

marital interactions characterized by negative behaviors have a detrimental impact on children.

Another study examining the direct relationship between marital conflict and child maladjustment was conducted by Buehler and Gerard (2002). Nine hundred and seventy-four families with a child between the ages of 5 and 11 were selected from a larger sample of families who participated in the 1988 National Survey of Families and Households (NSFH; Sweet, Bumpass & Call, 1992). Results showed that parents' reports of marital conflict were directly associated with greater maladjustment in children's peer relationships, such as the child's tendency to be mean to others and be less sociable, according to parental report.

An additional study (Cookston et al., 2003) examined the relationship between marital conflict and poor peer relations among 39 mothers and their 5-year-old children; results revealed that this relationship was moderated by maternal negative affect assessed during unstructured play sessions with a number of other mother-child dyads. More specifically, maternal report of affiliative discord, or problems caused by lack of support and affection in the marriage, was significantly related to the child's observed expression of negativity with unfamiliar peers (e.g., appearing angry, unhappy, or disturbed, or displaying aggressive behaviors or negative verbalizations) during the play session. However, results from this study showed that observed maternal negative affect during the play sessions, such as appearing angry, unhappy, or disturbed in the presence of the child, moderated the relationship between the marital quality and children's interactions with unfamiliar peers; a significant relationship was only found for children whose mothers displayed negative affect.

Finally, a few other studies have operationalized the quality of the marital relationship as physical violence between partners. McCloskey and Stuewig (2001)

conducted a study examining 363 mothers and one of their children between the ages of 6 and 12 from a battered women's shelter or from the community. The results from this study showed a direct relationship between children's reports of interparental violence and children's reports of loneliness and conflict with a best friend. Additionally, children's reports of violence between spouses predicted mothers' reports of the child's problematic peer relationships. Children living in a shelter reported increased social isolation and were less likely to report having a best friend than those children who had not resided in a shelter, which suggests that more severe partner violence had more serious consequences on children's outcomes with peers.

In a similar study, Jaffe et al. (1986) examined 68 children from families without interparental violence in the community and 58 children from families with partner violence living in shelters, all between the ages of 6 and 11. Girls from violent families were reported by mothers to have less social competence than girls from nonviolent families, such as an increase in teasing of others. Boys from violent families were reported by mothers to have less social competence than boys from nonviolent families, such as an increase in cruelty, bullying, and meanness to others, showing off, and teasing others.

The results from the two aforementioned studies where marital discord was operationalized as violence can also be understood in terms of the emotional security hypothesis. This theory suggests that more serious forms of marital discord, such as violence, may be the most distressing to children, as they pose a direct threat to children's own physical safety, in addition to the other ways that marital conflict disrupts emotional security as outlined earlier (Davies & Cummings, 1994).

In sum, a number of studies have found a direct relationship between the quality of the marital relationship and children's peer relationships. The studies reviewed here have included various sample sizes, with participants drawn from community and shelter populations; the marital relationship has also been operationalized differently depending on study. Importantly, none of the previously mentioned studies have examined the impact of the marital relationship on children's relationships with peers longitudinally; instead, only cross-sectional designs have been used. While the studies consistently supported a direct association between marital relationship quality and children's peer relationships, more studies (particularly longitudinal ones) need to be conducted in order to better understand the mechanisms that may help explain this relationship.

Associations between the quality of the marital relationship and the parent-child relationship. As purported by the emotional security hypothesis described earlier, one possible way that the marital relationship may affect children's social functioning may be through the quality of the parent-child relationship. Indeed, a large amount of literature (Belsky & Jaffe, 2006; Brody, Arias & Fincham, 1996; Gable, Belsky & Crnic, 1992; Gerard et al., 2006; Jouriles, Barling & O'Leary, 1987; Keller et al., 2004; Levendosky & Graham-Bermann, 1998; 2000; 2001; Lindahl & Malik, 1999; Margolin, Gordis & Oliver, 2004; Sturge-Apple et al., 2006) has shown that characteristics of the marital relationship affect other family subsystems as well, such as the parent-child relationship.

One way that many of these studies have explained this association has been through the "spillover hypothesis." Similar to the emotional security hypothesis, the spillover hypothesis suggests that aspects (e.g., affect or behavior) of one setting or relationship in a family can transfer to another, such as from the marital relationship to the parent-child

relationship. Based partly on the socialization hypothesis (Easterbrooks & Emde, 1988) and family systems theory, the spillover hypothesis posits that parents experiencing marital conflict may show more problematic parenting due to a spillover of their overall distress from the marriage (Emery, Hetherington & Dilalla, 1984). Problems with children may also be an attempt at deflecting stress away from the marriage or may be due to modeling the parent-child relationship after the marital relationship. Thus, like the emotional security hypothesis, the spillover hypothesis suggests that problems in the marriage may render parents less emotionally available to their children, as the stress from the discordant marriage takes precedence over child rearing, and/or may cause more problematic parenting behaviors.

However, the spillover hypothesis does not consider the implications that this transfer of affect and behavior has on children's emotional security or their overall emotional adjustment. Instead, this theory only focuses on the way in which the marital relationship impacts the parent-child relationship, making the spillover hypothesis a much more narrow theory than the emotional security hypothesis. Still, a number of individual studies and a meta-analytic review examining 68 studies (Erel & Burman, 1995) found support for the association between marital quality and parent-child relationship quality, with some researchers concluding that there is substantial support for the "spillover hypothesis." However, fewer studies have empirically examined the more comprehensive aspects of the emotional security hypothesis.

In one longitudinal study of 225 families with a 6-year-old child (Sturge-Apple et al., 2006), results showed that initial parental ratings of marital withdrawal were associated with increases in observed parental emotional unavailability (low warmth, support, and high levels of parental indifference, apathy, and unresponsiveness) in a parent-child interaction task

measured twice over a 1-year period. Marital hostility was related to increases in observed maternal emotional unavailability, but not to paternal emotional unavailability. Sturge-Apple et al. concluded that the differences in the effect of the marital relationship on mothers and fathers provide support for the idea that mothers, in general, seem to be more vulnerable to marital conflict than are fathers, due to their greater sensitivity to interpersonal problems (Davies & Cummings, 1994). Since research has shown that mothers assume more parenting responsibilities than fathers (Thompson & Walker, 1989), the authors suggest that marital difficulties may make it more difficult for mothers to fulfill their parenting responsibilities.

Additionally, a handful of cross-sectional studies have reported that marital conflict leads to poor parenting behaviors. In a study examining 235 mothers and fathers of kindergarten children, Keller et al. (2004) found that maternal and paternal reports of marital conflict were related to self-reported inconsistent discipline and poor parenting practices, and marital hostility was associated with self-reported increases in parental psychological control. Keller et al. concluded that marital functioning and parenting are not two separate or distinct family processes; instead, they are interrelated subsystems of the family. More specifically, this study supported the “spillover hypothesis,” which suggests that the negativity associated with marital conflict spills over into the parent-child relationship (Erel & Burman, 1995; Grych, 2002).

Similarly, in another study examining 170 children, aged 10-12, and their married parents, Brody et al. (1996) found that husbands’ and wives’ reports of degree of negativity in the marital relationship, such as interparental conflict, marital conflict resolution, and overall marital adjustment, were related to observer ratings and children’s reports of harsh-punitive parenting practices and ineffective parent-child communication.

One additional study operationalized the quality of the marital relationship as marital conflict. Lindahl and Malik (1999) examined 113 families with a 7- to 11-year-old son and found a significant relationship between fathers' use of destructive versus harmonious conflict styles during an observed marital interaction and observed rejection and withdrawal behaviors when interacting with their sons. This relationship was even more pronounced when husbands and wives reported feeling distressed about the marital relationship.

A few other studies have documented an association between marital violence per se and parenting. For example, Jouriles et al. (1987) conducted a study examining 45 families with a child between the ages of 5 and 13 participating in a treatment program for family violence. As expected, a significant correlation was found between maternal report of interspousal aggression and maternal report of mother and father aggression directed toward children, indicating once again that marital conflict is likely to result in poor parenting behaviors. These findings can be understood in terms of the emotional security hypothesis, which argues that interparental discord may render parents more hostile and rejecting toward their children (Davies & Cummings, 1994).

Margolin et al. (2004) examined 86 two-parent families with a child between the ages of 9 and 13 and found that families with husband-to-wife aggression were observed to have a negative tone that pervaded the family and across all familial interactions. The results showed that husbands' hostility toward their wives was negatively correlated with empathy toward their child during an observed father-child discussion, while wives' hostility toward their husbands was positively correlated with negative affect toward their child during an observed mother-child discussion. Margolin et al. concluded that these findings contribute to a growing body of literature that links family subsystems and provide support for the notion

that the emotional tone in the parent-child dyad is negatively impacted by marital conflict. Interestingly, the results from this study suggest that marital hostility might impact parenting differently for fathers and mothers; fathers' empathy is compromised, while mothers' negative affect is exacerbated. These results may also be understood in terms of the emotional security hypothesis in that marital discord leaves parents both emotionally unavailable to children, as well as more rejecting of them (Davies & Cummings, 1994).

Finally, Levendosky and Graham-Bermann (1998; 2000; 2001) conducted a series of studies using a sample of 121 women experiencing domestic violence and their 7- to 12-year-old children, half of whom were residing in a shelter for battered women and half of whom were drawn from the same community. In each study, domestic violence was assessed by maternal report of physical and psychological abuse in the last year. In these studies, Levendosky and Graham-Bermann found that mothers' reports of domestic violence were significantly related to maternal report of parenting stress, maternal report of parenting problems such as low warmth, child-centeredness, and effectiveness, and high control, as well as low levels of observed warmth and support.

Finally, in a recent review of the literature, Belsky and Jaffe (2006) discussed multiple pathways by which the marital relationship impacts children's outcomes such as maladaptive social skills and poor peer relationships, including by contagious emotion dysregulation and through parent-child interactions, as suggested by the emotional security hypothesis. These authors also argued that the marital relationship is a primary support system for parents, especially for mothers; consequently, parenting behaviors are impaired when this support is lacking. Importantly, Belsky and Jaffe noted that it has been rare for researchers to use affect-specific measures that assess affective components of the marital

relationship, as most studies have examined more global qualities, such as overall marital satisfaction or global conflict. These points provide support for the uniqueness of the current study, as affective specific qualities of the partner relationship will be measured among mothers, including feelings of love and ambivalence. Overall, Belsky and Jaffe concluded that there was substantial evidence to show that the quality of the marital relationship impacted parenting over multiple stages of the child's life. In particular, empirical studies examining children during the preschool and school-age years yield substantial support for an association between more negative marital relationships and more negative parent-child relationships.

In conclusion, the results from prior studies show that the quality of the marital relationship is associated with covert and overt parenting behaviors, such as emotional unavailability and a lack of empathy, as well as harsh or inconsistent discipline and child-directed aggression. Various theories, including the "spillover hypothesis" (Erel & Burman, 1995) and the emotional security hypothesis (Davies & Cummings, 1994) have provided explanations as to how the quality of the marital relationship, including marital discord and violence per se, impacts the quality of the parent-child relationship. However, the emotional security hypothesis is unique in that it is based on attachment theory, and it provides a more comprehensive understanding of the ways in which the marriage may impact parenting. The aforementioned studies used a variety of sample sizes, as well as different age ranges of children involved in the study, from kindergarten (Keller et al., 2004) through age 13 (Jouriles et al., 1987; Margolin et al., 2004). Also, it is important to note the various methodologies used in assessing the parent-child relationship, including parent self-report (Jouriles et al., 1987; Keller et al., 2004), child report (Brody et al., 1996), and observation

(Brody et al., 1996; Margolin et al., 2004; Sturge-Apple et al., 1996). Although the association between the quality of the marital relationship and the parent-child relationship has been well-documented in the literature, the variety of methodologies, sample sizes, and the lack of longitudinal data leaves room for future research to solidify these findings.

Associations between the parent-child relationship and school-age children's peer relationships. As mentioned previously, the emotional security hypothesis posits that the parent-child relationship impacts children's peer relationships by influencing their internal working models of relationships and their emotional security; difficulties in the parent-child relationship lead to heightened sensitivity, distorted perceptions of others, and emotional dysregulation when children are faced with conflicts of their own (Davies & Cummings, 1994). In fact, the existing literature has demonstrated an association between the overall quality of the parent-child relationship, including specific parenting behaviors, and the quality of a child's relationship with peers, including characteristics such as peer-directed aggression, victimization, bullying, and social competence in general (Dunn, Davies, O'Connor & Sturgess, 2001; Isley, O'Neil, Clatfelter & Parke, 1999; MacKinnon-Lewis & Lofquist, 1996; Schwartz, Dodge, Pettit & Bates, 1997; Stevens, Bourdeaudhuij & Van Oost, 2002; Vandewater & Lansford, 1998).

For example, a subset of participants ($n = 645$) from the larger NICHD Study of Early Child Care participated in a study examining parenting behaviors and beliefs as predictors of children's social adjustment in the early elementary school years (NICHD, 2004). Parenting behaviors were observed in a parent-child interaction task in the lab and in the home when the children were 4 years old, and also when the children were in first grade. In addition, parents completed a questionnaire assessing preferences about child rearing, such as allowing

child-directed behaviors or promoting adult-directed behaviors in children. The children's teachers also completed a social skills questionnaire assessing cooperation, assertion, and self-control with peers in kindergarten, first, and second grade. It was found that children whose mothers believed in more child-directed behavior showed higher ratings of social skills, and children whose fathers showed greater sensitivity in parent-child interactions also had higher ratings of social skills. This study demonstrated that parenting beliefs, as well as actual parenting behaviors, impact a child's social skills with peers, and these relationships may differ between mothers and fathers.

In another study, Isley et al. (1999) observed 116 children, aged 5 and 6, and their parents during two separate 10-minute parent-child physical play interactions, spaced 1 year apart (once in kindergarten and once in first grade), in an attempt to examine the association between expressed parent and child positive or negative affect and the child's social competence. Parent and child-expressed positive affect included warmth/affection, happiness, appropriateness of affect, and positive responsiveness, while negative affect included anger/irritation, boredom, frustration, and anxiety. Children's social competence was also assessed at both times by their peers; children were asked to pick up to three children in their class who exhibited prosocial behaviors and three children who exhibited verbal or physical aggression. Additionally, teachers rated all the children in their classroom on the following dimensions: prosocial behaviors, verbal aggression, physical aggression, and disruptive behaviors.

Results from this study found that the expression of positive affect by parents toward their children, as well as children toward their parents, was related to better social competence for children in kindergarten and first grade. Additionally, negative affect

expressed between parents and children was associated with more problems with peers. This study is unique in that it examined children's social competence in light of expressed positive and negative affect, as well as the bi-directional effects of the parent-child interaction.

A few other studies have not only examined specific parenting behaviors in relation to children's peer outcomes but have also examined the influence of the perceived quality of the parent-child relationship. In one study, Stevens et al. (2002) examined 1719 children between the ages of 10 and 13 and one of their parents in an attempt to find an association between parent-reported aspects of family functioning, such as family involvement, conflict, and discipline practices, and child bullying and victimization by peers. In addition, parents and children reported on general child-rearing practices, including punishment techniques, parental warmth and understanding, and promotion of the child's autonomy. The results showed that children who bullied peers (according to child report) reported less involvement and discipline in their families than other children. Children who were not victims of bullying or bullies themselves reported less parental punishment in their families, as well as a more warm and personal relationship with parents than children involved in bullying. The emotional security hypothesis would support these results by arguing that more positive parenting behaviors are likely to leave a child feeling more emotionally secure and competent in social relationships, such as with peers (Davies & Cummings, 1994).

In another study with 238 children age 7-17 and their families, Dunn et al. (2001) showed that children's reports of friendship quality were significantly related to children's reports of the positivity of the mother-child relationship, defined by a lack of conflict and punitive discipline, positive enjoyment between the mother and child, and expressed affection. In addition, children's reports of friendship quality were also positively related to

children's perceptions of their ability to confide in their parent. This study demonstrates that both specific parenting behaviors and the perceived quality of the parent-child relationship impact children's relationships with peers.

A few final studies operationalized parenting behavior as parent-to-child aggression. Schwartz et al. (1997) conducted a longitudinal study examining the impact of the home environment on 198 boys, all 5 years-old. Mothers initially reported on the harshness of their discipline and use of aggression toward the child; maternal hostility and warmth were also assessed through observed mother-child interactions. Five years later, child aggression toward peers and victimization were assessed by the child's peers in the school classroom. The results showed that boys who were nominated by their peers as aggressors, as well as victims of teasing and bullying, had experienced more punitive, hostile, and abusive parental treatment than the remainder of the sample. Similarly, another study (MacKinnon-Lewis & Lofquist, 1996) showed that observed aggression in mother-son interactions was associated with an increase in maternal report of child aggression toward peers among 7- to 9-year-old boys, and an increase in the likelihood that the child would be disliked by peers 6 to 9 months later according to peer nomination. An important limitation of these two studies is that peer outcomes were examined only in male children. However, information about girls' peer outcomes, including aggressive tendencies, is equally important knowledge in this area of research.

In general, results from prior studies show parenting beliefs, specific parenting behaviors, such as expressed affect, punitive or harsh discipline, hostility, and child-directed aggression, as well as the overall quality of the parent-child relationship are directly associated with the quality of children's relationships with peers. These results can be

understood in terms of the emotional security hypothesis, which suggests that more positive parenting behaviors render a child more emotionally secure, and more negative parenting behaviors render a child less emotionally secure, hence, impacting social competence (Davies & Cummings, 1994). However, prior studies operationalized the quality of the parent-child relationship in various ways, making it difficult to compare the results. More research is needed to better understand the relationship of parenting to children's outcomes with peers, including other possible influences such as the marital or partner relationship.

The parent-child relationship as a mediator between the quality of the marital relationship and school-age children's peer relationships. Although a number of studies have documented direct relationships between marital quality, parent-child relationships, and child peer outcomes, very few studies have empirically examined possible mediating relationships, such as how the quality of the parent-child relationship might mediate the association between the marital relationship and child peer relationships, as suggested by the emotional security hypothesis. One exception was a study conducted by Stocker and Youngblade (1999) who examined 136 intact families with two children between the ages of 7 and 10. Marital conflict was independently assessed by parents' self-report on the O'Leary – Porter Scale of Marital Conflict (Porter & O'Leary, 1980), which indicated the frequency of marital conflict in the presence of the child. Additionally, parents' behavior during a 15-minute videotaped interaction was rated using the Marital Interaction Coding System (Stocker, Alexander & Elias, 1996). Husbands' and wives' scores on the two measures of marital conflict were significantly correlated across measures, and the total self-report and total observed scores were then averaged to make a total composite dyadic marital conflict score. Children's perception of their parents' marital conflict was also assessed through the

Children's Perceptions of Interparental Conflict Scale interview (Grych, Seid & Fincham, 1992). The children's peer relationships (i.e., popularity, problematic peer relations, and leadership) were assessed using maternal report on the Peer Relationships Questionnaire (Stocker & Dunn, 1990), and parental hostility toward the child was measured through child report on the Family Emotional Expressiveness Questionnaire (Greenberg, Kusche & Cook, 1991; Halberstadt, 1986), as well as through coded observations of a family interaction episode. For both mothers and fathers, hostility toward children was significantly correlated across measures, so the two measures were standardized and combined for each parent, resulting in two composite maternal and paternal hostility scores.

The results from this study found not only a direct relationship between parents' reports of exposure to marital conflict and problematic peer relationships reported by the child's mother, but also that father-child hostility, in particular, mediated the relationship between marital conflict and children's problematic peer outcomes. The authors speculated that children tend to play more with fathers, and thus may be more affected by negative interactions with their fathers as a result of marital discord. In turn, this may lead to children's difficulty with negative affect and interpreting others' affective messages. However, given that other studies have suggested more powerful effects for mothers, more work needs to clarify the possible differences between mother and father interactions with children.

In another related study, Lindsey et al. (2002) examined 84 intact families with sons between the ages of 7 and 9 on two occasions for 90 minutes. Marital conflict was assessed using parent report of physical and verbal aggression on the Conflict Tactics Scale (CTS; Straus, 1979). Scores for conflict behaviors directed toward a particular partner were

averaged across husband and wife. For example, the husband's marital conflict score was comprised of his own ratings of physical and verbal aggression directed toward his wife, as well as his wife's ratings of his behaviors.

The mother-son relationship was assessed through observations of interactions across the two sessions including mother and child expressions of positive and negative affect. Positive affect was defined by smiling, laughing, and giggling, and negative affect was defined by frowning, crying, anger, disgust, or face-making. Mother and child affective expressions were significantly correlated across the two sessions; consequently, data were combined to create mother and child scores based on the total period of mother-son interaction. Separate positive and negative affect scores were created for each partner by dividing the amount of positive and negative affect by the total duration of the interaction period. Children's social competence was measured by peers using a procedure developed by Coie, Dodge, and Coppotelli (1982), during which children were asked to choose three children they liked "least" and "most." The number of nominations each child received was standardized within the classroom, and a social preference score was created for children by subtracting their "liked least" score from their "liked most" score. Peers and teachers also provided information on boys' aggressive behavior in a similar manner. Finally, teachers rated the study child and their classmates on perceived peer aggression.

The results from this study did not find a direct relationship between verbal and physical aggression in the marriage and boys' social competence or aggression with peers; thus, mediation was not possible. Instead, the results showed that severity of marital conflict was related to more negative emotions in the mother-son interaction task. Additionally, mothers who displayed positive emotions toward their sons had children who were less

aggressive with peers, and sons who displayed negative emotions toward their mother were more aggressive with peers. In other words, although the results did not find support for mediation per se, the findings revealed that the quality of the marital relationship was associated with the mother-son relationship, and, in turn, the mother-son relationship was associated with children's peer interactions.

The authors concluded that results supported the emotional security hypothesis (Davies & Cummings, 1994) by demonstrating that marital conflict interfered with the emotional relationship between the mother and child, which in turn made it more difficult for the child to form positive peer relationships. That is, marital conflict may have contributed to negative patterns of emotional expression between the parent and child and less emotional security, which may have resulted in negative working models of relationships and negative patterns of social behavior.

In one longitudinal study, Vandewater and Lansford (1998) examined associations between variables in 618 children from both married and divorced/not remarried families. The parent-child dyads were participants in the larger National Survey of Families and Households (NSFH; Sweet, Bumpass, & Call, 1988); children were between 5 and 12 years of age during wave 1 and were assessed 5 years later (between 10 and 17 years of age). Parental conflict was assessed in this study at both times, and both parent-child warmth and children's problematic peer relationships were assessed only at Time 2. For the married group, parental conflict was assessed by asking how often in the past year the couple had open disagreements about various issues including household tasks, money, and the children. For the divorced/not remarried group, parental conflict was assessed by asking how often the person had conflict with their ex-spouse about various issues including time spent with the

child, money spent on the child, and the living arrangements for the child. Parental warmth was assessed by child report, and children's relationship with peers was measured by parent report on a series of questions about peer relationships from the Child Behavior Checklist (CBCL; Achenbach & McConaughy, 1987) such as social withdrawal, trouble getting along with others, and degree of being liked by other children.

Results from this study indicated that in the combined sample (both the married and divorced/not remarried groups), marital conflict and parental warmth had a significant direct effect on children's peer relationships for boys, but only parental warmth had a significant effect on girls' peer relationships. However, marital conflict was unrelated to parental warmth for boys and girls; therefore, mediation was not possible for either gender.

In one final study, Du Rocher Schudlich et al. (2004) examined 47 married couples with a child between the ages of 5 and 8. In this study, parents reported on their own use of certain conflict strategies in the marriage, such as aggression, avoidance, and collaboration, as well as their perceptions of their spouse's use of conflict strategies on the Conflicts and Problem Solving Scale (CPS; Kerig, 1996). The participating child completed the Family Stories Task (FAST; Shamir, Du Rocher Schudlich & Cummings, 2001) to assess for children's perceptions of family relationships, and a Puppet Procedure (Eisenberg, Fabes, Shepard, Murphy, Guthrie, Jones, Friedman, Poulin & Maszk, 1997; Mize & Ladd, 1988) to assess the child's peer relations, including conflict strategies with peers. The FAST included a series of different stories focused on the marital relationship, the mother-child relationship, and the father-child relationship. Children were prompted to respond to these hypothetical scenarios as they would in real life. The child's narrative responses were then scored for representations of the different family relationships linked to positive and negative qualities

of the family, including the parent-child relationship. The Puppet Procedure was similar in that children enacted responses with puppets to five hypothetical conflict situations with peers as they would in real life situations. Their response strategies were coded and rated for quality of peer relations, including prosocial and negative outcomes with peers.

Results from this study indicated that parents' reports of both overt and covert conflict behaviors with their spouses were related to more negative dispositions toward peer conflict and aggressive peer behaviors in children. Importantly, however, a child's perceptions of the father- and mother-child relationship were found to mediate the relationship between exposure to marital conflict and problems with peers. The authors suggested that these findings provide some evidence for the emotional security hypothesis (Davies & Cummings, 1994), namely, by showing that exposure to marital conflicts threatens the child's emotional security and negatively affects their representations of relationships in stressful situations. Thus, when children are presented with a conflict situation with peers, they are more likely to draw upon negative family representations and behave in similar ways as their parents during conflict. It is important to note that this study is distinct from the other previously mentioned studies in that it examined the child's internal representations of the parent-child relationship rather than parent perceptions or parent behaviors.

Summary and Conclusions

There is substantial and consistent evidence in the literature for a direct relationship between marital quality and school-age children's peer outcomes. Also, there is evidence in the literature that marital problems are associated with more negative parent-child relationships and problematic parenting behaviors, which, in turn, are associated with difficulties in the child's relationship with peers. These empirical findings can be understood

in terms of the emotional security hypothesis (Davies & Cummings, 1994), which suggests that a child's emotional security stems from the marital relationship as well as the parent-child relationship; furthermore, a child's emotional security has important implications for psychosocial adjustment, such as in forming relationships with peers. Very few studies, however, have empirically examined the quality of the parent-child relationship as a mediator between marital quality and child peer outcomes, which is a central premise of the emotional security hypothesis. Preliminary evidence supports the possibility that the parent-child relationship mediates the relationships between marital conflict and child peer outcomes (Du Rocher Schudlich et al., 2004; Stocker & Youngblade, 1999), although two studies have failed to find mediation (Lindsey et al., 2002; Vandewater & Lansford, 1998). Further research is needed to understand these associations due to a number of inconsistencies and limitations in the literature that make it difficult to compare the results of the studies. Additionally, it is important to note that almost no studies have examined this particular mediation model longitudinally, and few of the studies have been theoretically-based.

One important inconsistency in the literature is the difference in the way the variables of interest are operationalized. For example, marital conflict has been operationalized in terms of conflict resolution quality (Kitzmann & Cohen, 2003), positive and negative behaviors (Katz & Woodin, 2002), violence (Jaffe et al., 1986; Jouriles et al., 1987; Margolin et al., 2004; McCloskey & Stuewig, 2001), and emotional withdrawal (Sturge-Apple et al., 2006). Additionally, the parent-child relationship is operationalized differently across studies. Some studies examine the parent-child relationship in terms of parent-to-child aggression (Jouriles et al., 1987; MacKinnon-Lewis & Lofquist, 1996; McCloskey & Stuewig, 2001; Schwartz et al., 1997), discipline practices (Dunn et al., 2001; Keller et al., 2004; Schwartz et

al., 1997; Stevens et al., 2002), expressed positive or negative affect (Isley et al., 1999; Lindsey et al., 2002; Margolin et al., 2004; Vandewater & Lansford, 1998), emotional unavailability (Sturge-Apple et al., 2006), or overall perceived positivity of the mother-child relationship (Dunn et al., 2001).

Finally, the child-peer relationship has been defined as general social competence (Buehler & Gerard, 2002; Isley et al., 1999; Jaffe et al., 1986; Lindsey et al., 2002; NICHD, 2004), friendship quality (Dunn et al., 2001; Kitzmann & Cohen, 2003), aggression with peers (Cookston et al., 2003; Lindsey et al., 2001; MacKinnon-Lewis & Lofquist, 1996; McCloskey & Stuewig, 2001; Schwartz et al., 1997), bullying and victimization (Jaffe et al., 1986; Schwartz et al., 1997; Stevens et al., 2002), and other prosocial or asocial behaviors (Cookston et al., 2003; Du Rocher Schudlich et al., 2004; Isley et al., 1999). Because of these operational differences, results have very different meanings for individual studies and the research literature in general.

Another inconsistency is that researchers have used different methodologies to examine the variables of interest. For example, some studies have used only parent report to assess the variables (Buehler & Gerard, 2002; Jaffe et al. 1986; Jouriles et al., 1987; Keller et al., 2004), one study used only child report (Dunn et al., 2001), other studies have used parent and child report (Du Rocher Schudlich et al., 2004; Kitzmann & Cohen, 2003; Lindsey et al., 2002; McCloskey & Stuewig, 2001; Stevens et al., 2002; Vandewater & Lansford, 1998), some studies have used teacher report (Isley et al., 1999; Lindsey et al., 2002; NICHD, 2004), and other studies have included observations to measure constructs (Brody et al., 1996; Cookston et al., 2003; Isley et al., 1999; Katz & Woodin, 2002; Lindsey et al., 2002; MacKinnon-Lewis & Lofquist, 1996; Margolin et al., 2004; NICHD, 2004;

Schwartz et al., 1997; Stocker & Youngblade, 1999; Sturge-Apple et al., 2006). The different reporters utilized across studies likely impacted the results.

A third inconsistency in the literature is the differing age ranges used across studies. For example, some studies included children at one particular age (Cookston et al., 2003; Katz & Woodin, 2002; Keller et al., 2004; Schwartz et al., 1997; Sturge-Apple et al., 2006), while most studies examined children in an age range, such as school-age children (Brody et al., 1996; Jaffe et al., 1986; Kitzmann & Cohen, 2003; Lindsey et al., 2002; MacKinnon-Lewis & Lofquist, 1996; McCloskey & Stuewig, 2001; Stocker & Youngblade, 1999) or preschool-age through school-age children (Buehler & Gerard, 2002; Du Rocher Schudlich et al., 2004; Isley et al., 1999; Jouriles et al., 1987; NICHD, 2004), or school-age children through adolescence (Dunn et al., 2001; Margolin et al., 2004; Stevens et al., 2002; Vandewater & Lansford, 1998). Thus, interpretation of results may be difficult in some studies if age ranges covered several different developmental stages. For example, children from 4 to 6 years of age are likely to have different psychosocial outcomes than older school-age children, such as 10- to 12-year-olds. Consequently, it is difficult to compare the findings for the different age groups in the aforementioned studies because of the various developmental stages of the children.

Another major limitation of many of the previously mentioned studies is the use of cross-sectional data, making it difficult to understand how the quality of the marital relationship impacts children over time, including possibly different outcomes for exposure at different ages. Very few studies have examined the marital or partner relationship quality, the parent-child relationship, or children's relationships with peers through a longitudinal design (Isley et al., 1999; MacKinnon-Lewis & Lofquist, 1996; NICHD, 2004; Schwartz et

al., 1997; Sturge-Apple et al., 2006). Only one longitudinal study examined whether the quality of the parent-child relationship mediates the association between marital quality and school-age children's relationship with peers, and this study failed to find mediation (Vandewater & Lansford, 1998). Consequently, it is clear that more longitudinal research is needed to examine this particular mediation model over time.

Finally, it is important to note that many of the previously mentioned studies were not theoretically-driven. This is an important limitation because theoretical support provides a more complete rationale for studies and more meaningful interpretation of results. Most of the studies that did provide a theoretical explanation used the spillover hypothesis (Erel & Burman, 1995) or the emotional security hypothesis (Davies & Cummings, 1994). Use of these theories provides a greater understanding of results, which then helps to contribute to the development of these and other theories in the field. Because the spillover hypothesis is more limited in scope, with little consideration of children's emotional functioning and general social-emotional adjustment, the more comprehensive emotional security hypothesis was used to guide the present study.

The Present Study

The current study improved upon many of the previously mentioned limitations. First, this study used archive data to examine longitudinally whether maternal parenting behaviors mediated the relationship between partner quality and school-age children's relationship with peers. This study is unique because, not only have very few studies examined this particular mediation model, but even fewer studies have examined this mediation model in a longitudinal manner. This study also examined children at very specific time points instead of wide age ranges across childhood. Another unique strength of the current study was the

specific ages at which the chosen measures were administered to children. Partner quality was assessed when the children were 1 month old because it has been documented in the literature that the transition to parenthood is a particularly stressful time for couples (Belsky et al., 1985; Belsky & Penky, 1988; Belsky & Rovine, 1990). Also, children's relationships with peers were assessed during school-age because it is known that an important developmental task for children of this age is the ability to form meaningful friendships (Grych & Fincham, 1990; MacKinnon-Lewis & Lofquist, 1996; Parker & Asher, 1987).

Specifically, the current study used longitudinal archive data to examine how mothers' reports of partner quality in an infant's home (Phase I) impacted observed maternal parenting behaviors when the child was preschool-age (Phase II), which, in turn, influenced school-age children's relationship quality with peers based on teacher and child report (Phase III). Multiple informants and methodologies (e.g., questionnaires and observation tasks) were chosen, which reduced the likelihood of confounded or biased results.

In addition, the measures chosen for the current study improved upon some of the limitations in prior studies. For example, the quality of the partner relationship was examined using a scale that captures not only partner conflict, as did many previously discussed studies, but also affective characteristics such as love and ambivalence. According to Davies and Cummings (1994) and the emotional security hypothesis, it is necessary to examine multiple aspects of the marital relationship, including affective characteristics and conflict, as these aspects have each been shown to impact children. In addition, maternal parenting behaviors were examined using a parent-child interaction task that prompted children and mothers to interact during a pleasurable, as well as a challenging, task. Again, the emotional security hypothesis (Davies & Cummings, 1994) suggests that children's emotional security

may be especially influenced by parent-child interactions during more emotion-laden tasks; thus, the tasks used in this study are particularly useful for this reason. Finally, children's relationships with peers were measured using teacher report and child report examining positive as well as negative behaviors. In general, the variables in this study were operationalized in a broader manner than the previously discussed studies.

Hypotheses

Hypothesis 1: There will be a significant relationship between partner quality and the quality of the parent-child relationship. Specifically, mothers with a higher quality partner relationship will exhibit a higher quality parent-child relationship, as defined by more positive and less negative parenting behaviors.

Hypothesis 2: There will be a significant relationship between partner quality and child-peer relationship quality. Specifically, mothers with a higher quality partner relationship will have children who exhibit more prosocial and less negative behaviors with peers.

Hypothesis 3: There will be a significant relationship between the parent-child relationship and the child-peer relationship. Specifically, a more positive parent-child relationship will be related to higher quality child-peer relationships.

Hypothesis 4: The parent-child relationship will mediate the relationship between partner quality and children's peer relationships; that is, partner quality will no longer have a significant effect or will have a reduced effect on peer outcomes when the parent-child relationship is accounted for.

Method

Participants

Participants included a subsample ($n = 902$) drawn from a larger sample of 1,364 participants who took part in a longitudinal study initiated by the National Institute of Child Health and Human Development (NICHD Study of Early Child Care). The purpose of the larger study was to examine the relationship between child care experiences, the family environment, and children's developmental outcomes. Women were first recruited from hospitals following the birth of the target child. The participating children, their caregivers, and teachers were assessed at frequent intervals from birth through adolescence. Researchers assessed children's development using multiple methods, including trained observers, interviews, questionnaires, and testing, and measured many facets of children's development, including social, emotional, intellectual, language, behavioral problems and adjustment, and physical health. The subsample of children and families included in the current study were chosen because these were participants who had completed relevant measures during Phase I (age 1 month), Phase II (age 54 months), and Phase III (5th grade), from which data were drawn in the present study.

Demographic characteristics of the subsample used in the current study, as well as excluded participants, are seen in Table 1. Participants with complete Phase I, II, and III data differed from excluded participants on a number of characteristics measured upon entry into the NICHD study. First, there were significantly fewer male children and more female children among included participants than excluded participants ($\chi^2 = 5.35; p < .05$). Regarding the child's ethnicity, there were significantly more white children and fewer minority children among included participants than excluded participants ($\chi^2 = 22.52; p <$

.001). Included mothers were significantly older at the time of their child's birth than excluded mothers ($t = -6.86; p < .001$), as were included fathers compared to excluded fathers ($t = -3.55; p < .001$). Mothers included in the present study were significantly more likely to be married than were excluded participants ($\chi^2 = 157.44; p < .001$). Included mothers and their partners were also significantly more likely to have higher educational degrees, such as a bachelor's degree or post-graduate work, while excluded mothers and their partners had significantly less education, such as a high school diploma equivalent or less (Mothers: $\chi^2 = 59.68; p < .001$; Partners: $\chi^2 = 33.84; p < .001$). Included mothers and their partners were each significantly more likely to have professional, managerial, sales, or administrative occupations, while excluded mothers and partners tended to have significantly more laborer or assembly occupations (Mothers: $\chi^2 = 49.77; p < .001$; Partners: $\chi^2 = 23.29; p < .05$). Finally, families in the present study had significantly higher yearly family incomes than excluded participants ($t = -4.08; p < .001$). There were no significant differences among included and excluded participants on child birth order or the gestational age of the child at birth.

Procedure

Participants were recruited using random sampling from designated hospitals at 10 data collection sites around the United States. Recruitment of participants began in January 1991 and was completed in November 1991. Additionally, only families with full-term healthy newborns were included in the study, resulting in 1,364 recruited families (58% of contacted families). The original sample size of the study was determined to allow for significant attrition over the course of the study.

Table 1

Demographic Characteristics at Study Entry

Characteristic	Included (<i>n</i> = 902)		Excluded (<i>n</i> = 462)	
Child Gender				
Male	446	(49.4%)	259	(56.1%)
Female	456	(50.6%)	203	(43.9%)
Child Ethnicity				
American Indian	3	(.3%)	2	(.4%)
Asian, Pacific Islander	11	(1.2%)	11	(2.4%)
Black	97	(10.8%)	79	(17.1%)
White	758	(84.0%)	339	(73.4%)
Other	33	(3.7%)	31	(6.7%)
Child Birth Order	$\chi = 1.82$ (<i>SD</i> = .92)		$\chi = 1.86$ (<i>SD</i> = 1.00)	
Child Gestational Age	$\chi = 39.26$ (<i>SD</i> = 1.45)		$\chi = 39.25$ (<i>SD</i> = 1.41)	
Mother Age	$\chi = 28.85$ (<i>SD</i> = 5.52)		$\chi = 26.67$ (<i>SD</i> = 5.58)	
Father Age	$\chi = 31.75$ (<i>SD</i> = 5.52)		$\chi = 30.38$ (<i>SD</i> = 6.16)	
Mother Marital Status				
Married	753	(83.5%)	291	(63.3%)
Partnered, living together	79	(8.8%)	43	(9.3%)
Separated	3	(.3%)	9	(2.0%)
Divorced	0	(.0%)	2	(.4%)
Widowed	0	(.0%)	1	(.2%)
Continuing relationship	56	(6.2%)	31	(6.7%)
Not romantically involved	10	(1.1%)	75	(16.3%)
Other	1	(.1%)	8	(1.7%)
Mother Education				
<12 years	64	(7.1%)	75	(16.2%)
High school graduate	174	(19.3%)	113	(24.5%)
Some college	297	(32.9%)	158	(34.3%)
Bachelor's degree	219	(24.3%)	65	(14.1%)
Some graduate work	125	(13.9%)	36	(7.8%)

(table continued)

Law degree	10	(1.1%)	4	(.9%)
Doctoral degree	13	(1.4%)	10	(2.2%)
Partner Education				
<12 years	54	(6.0%)	51	(13.8%)
High School graduate	198	(22.5%)	86	(23.2%)
Some college	260	(29.5%)	109	(29.5%)
Bachelor's degree	199	(22.6%)	72	(19.5%)
Some graduate work	110	(12.5%)	39	(10.5%)
Law degree	18	(2%)	1	(.3%)
Doctoral degree	39	(4.4%)	12	(3.2%)
Mother Occupation				
Executive or managerial	87	(11.5%)	28	(7.6%)
Professional	199	(26.3%)	68	(18.5%)
Technical support	35	(4.6%)	20	(5.4%)
Sales	79	(10.4%)	60	(16.3%)
Administrative support	208	(27.4%)	84	(22.8%)
Private household	6	(.8%)	8	(2.2%)
Protective services	2	(.3%)	1	(.3%)
Service	103	(13.6%)	57	(15.5%)
Farm management	3	(.4%)	2	(.5%)
Mechanic	7	(.9%)	0	(.0%)
Machine operator	21	(2.8%)	29	(7.9%)
Transportation	3	(.4%)	1	(.3%)
Laborer	5	(.7%)	10	(2.7%)
Partner Occupation				
Executive or managerial	178	(21.8%)	53	(15.6%)
Professional	158	(19.4%)	48	(14.1%)
Technical support	48	(5.9%)	15	(4.4%)
Sales	77	(9.4%)	43	(12.6%)
Administrative support	32	(3.9%)	20	(5.9%)
Protective services	25	(3.1%)	10	(2.9%)
Service	45	(5.5%)	23	(6.8%)
Farm management	19	(2.3%)	3	(.9%)
Mechanic	107	(13.1%)	52	(15.3%)
Machine operator	46	(5.6%)	28	(8.2%)
Transportation	40	(4.9%)	20	(5.9%)
Laborer	40	(4.9%)	25	(7.4%)
Total Family Income	$\chi = 40,617$ ($SD = 32,920$)		$\chi = 32,239$ ($SD = 35,862$)	

In order to retain a power of at least .85 for the major hypotheses in the original study, the sampling plan projected the need for a minimum of 900 subjects. However, the high retention rate over time resulted in a sample size that was substantially above 900 participants.

Families included mothers who planned to go to work or school full-time (60%) or part-time (20%) during the child's first year, as well as those mothers who planned to stay at home with the child (20%). The random sampling reportedly included economic, educational, and ethnic diversity at each of the data collection sites. Two-parent families and single-parent families were included in the sample. Mothers were excluded from the study if they were younger than 18 years of age at the child's birth or could not speak English. In addition, families who did not anticipate participation for more than 3 years were excluded. Children were not included if they had obvious disabilities at birth or remained in the hospital for more than 7 days postpartum.

During Phase I, children in the study were birth to 36 months of age. Enrollment began at the 1-month home visit. At this time, families were scheduled for extensive assessments at 1, 6, 15, 24, and 36 months. Research assistants from each of the data collection sites made home visits and child care visits (if applicable) and conducted data collection in the laboratory. Also, telephone updates were conducted every four months during Phase I for tracking purposes.

In Phase II of data collection, retention of the original sample was excellent, with only 261 families no longer participating in the study. Thus, the remaining sample was 1,103 (81% of the full sample). Children in this phase of the study were between 36 months of age and the child's second year of school, or first grade (and approximately 6 years of age). During Phase II, research assistants from each of the data collection sites made home visits,

child care visits (if applicable), and elementary school visits, and they conducted data collection in the laboratory playroom, when the children were 36 and 54 months old, as well as when they were in first grade. Assessments were made of the child, parents, social and physical characteristics of the home, aspects of child care, and the elementary school environments. Telephone updates were conducted every four months in Phase II for tracking purposes, including a 6-month phone follow-up interview that took place when the child was 60 months old.

In Phase III of data collection, children were between second and sixth grade (approximately between the ages of 6 and 12 years old). Retention of the sample was again excellent. At this point in the study, 1,077 of the original families remained after 12 years. In other words, 79% of the families recruited when their child was 1 month old remained in the study.

During Phase III, research assistants from each of the data collection sites made home visits, child care visits (if applicable), and elementary school visits, and they conducted data collection in the laboratory playroom annually when the children were in second through sixth grade. Assessments were made of the child, parents, social and physical characteristics of the home, aspects of child care, and the elementary school environments. When school visits were not made in second, fourth, and sixth grade, information on school achievement and behavior in school was collected using teacher questionnaires. Children were also observed in the laboratory playroom with a same-age peer during fourth and sixth grade. When the children were 9 years old, their health and physical development was monitored yearly, with particular interest in pubertal development. Finally, telephone updates were conducted annually between the major assessments during Phase III for tracking purposes.

Measures

Quality of the partner relationship. The Love and Relationships Scale (Braiker & Kelley, 1979; see Appendix A) is a 25-item questionnaire comprised of four subscales that assess the quality of the partner relationship; items are rated on a 9-point scale ranging from “*not at all*” to “*very much/extremely*.” These subscales include Conflict, Maintenance, Love, and Ambivalence. Examples include, “How often do you and your partner argue?” (Conflict), “How much do you tell your partner what you need from the relationship?” (Maintenance), “To what extent do you have a sense of belonging with your partner?” (Love), and “How confused are you about your feelings toward your partner?” (Ambivalence). In the larger study, the Maintenance subscale was excluded, resulting in a modified 20-item questionnaire comprised of only three subscales that assess the quality of the partner relationship. A total score was calculated by averaging the three subscale scores with reverse-scored conflict items; thus, scores can range from 1 to 9, with higher scores reflecting better partner relationship quality. This measure was administered to mothers in their home when the targeted child was 1 month old during Phase I of data collection.

Internal consistency in a previous study of 67 white couples expecting a first born child (Belsky et al., 1985) was calculated across husbands and wives and across repeated administrations (during the last trimester of pregnancy and 3, 9, and 36 months postpartum). Alphas ranged from .61 to .90, with a mean of .76 for the four subscales, including the Maintenance subscale, which was not included in the NICHD study or the present study. Test-retest reliability over a period of 12 months (last trimester of pregnancy to 9 months postpartum) ranged from .51 to .81 across the four subscales. Coefficient alpha for the total

score (Love, reverse-scored Conflict, and Ambivalence items) in this subsample ($n = 902$) was .87.

Evidence of the validity of the instrument comes from the Belsky et al. (1985) study, which documented the instrument's sensitivity to marital change (i.e., decline in quality) across the transition to parenthood. On average, this is a time when marriages are known to decline in quality. In addition, husband and wife reports were positively and significantly correlated with one another across the four scales, ranging from .24 to .62, at simultaneous measurement points in that study.

Maternal parenting behaviors. The Parent-Child Interaction Task (Egeland & Hiester, 1993; see Appendix B) was conducted in the laboratory when the child was 54 months old during Phase II of data collection. The interaction task included several videotaped, 15-minute observations of different interaction activities between the mother and child. Two tasks were considered too difficult for the child to carry out independently and required the parent's instruction and assistance. The first activity involved completing a maze that was attached to the screen of an Etch-A-Sketch. The second activity involved forming a series of same-sized rectangular cube towers from variously shaped wooden blocks. A third activity encouraged free play between the mother and child with a set of six hand puppets.

Maternal behavior was coded considering all three activities simultaneously according to the following scales: Supportive Presence, Respect for Autonomy, Stimulation of Cognitive Development, Quality of Assistance, Hostility, and Confidence. Each score was coded along a 7-point Likert scale ranging from "very low" to "very high." Three composite scores were also calculated: Maternal Sensitivity, Maternal Stimulation, and Positive Caregiving. Maternal Sensitivity was formed using the Supportive Presence, Respect for

Autonomy, and reverse-coded Hostility scales. Maternal Stimulation was formed using Cognitive Stimulation and Quality of Assistance scales. Finally, Positive Caregiving was formed using all six of the above scales; scores on this total can range from 1 to 42, with higher scores reflecting more positive caregiving. Inter-rater reliability was based on double-coding tapes of 242 mother-child interactions. Reliability estimates were moderate to high and ranged from .64 (Respect for Autonomy) to .78 (Maternal Sensitivity). Internal consistencies (Cronbach's alpha) of the composite scores in the NICHD sample were as follows: Maternal Sensitivity = .84, Maternal Stimulation = .84, and Positive Caregiving = .78.

In the present study, a principal components factor analysis using varimax rotation was conducted using the six subscales described above. Factors were considered for interpretation when Eigenvalues were greater than 1 and more than two subscales had loadings above .40. Results revealed only one interpretable factor. This factor had an Eigenvalue of 4.13 and accounted for 68.84% of the variance; all six subscales had high loadings on this factor, ranging from -.68 (Hostility) to .93 (Supportive Presence). Consequently, the Positive Caregiving composite score was retained and used as the measure of maternal parenting behaviors in the present study in order to include all measured aspects of the parent-child interaction.

Quality of child-peer relationships. The Friendship Quality Questionnaire (Parker & Asher, 1993; see Appendix C) is a 21-item questionnaire that assesses six friendship characteristics including Validation and Caring, Conflict Resolution, Conflict and Betrayal, Help and Guidance, Companionship and Recreation, and Intimate Exchange. Examples include “___ and I get mad at each other a lot” (Conflict and Betrayal), “___ and I make each

other feel important and special” (Validation and Caring), “___ and I are always telling each other about our problems” (Intimate Exchange), “when I’m having trouble figuring something out, I usually ask ___ for help and advice” (Help and Guidance), “___ and I always pick each other as partners” (Companionship and Recreation), and “___ and I always make up easily when we have a fight” (Conflict Resolution). The questionnaire was designed to assess the child’s perceptions of their best friendships; items are rated on a 5-point response scale ranging from 1 (“*not at all true*”) to 5 (“*really true*”).

A total friendship quality score was computed as the weighted average of the responses to items 2 through 21 (item 1 asked “___ and I live really close to each other,” so was not included in the total score), with items 3, 12, 15 and 20 reverse-scored, as they are Conflict and Betrayal items. The possible total score ranges from 1 to 5, with higher values indicating more positive friendship behaviors from and with the best friend. The total score was used in the present study. This measure was administered to children in the lab when the child was in fifth grade during Phase III of data collection.

Internal consistency reliabilities reported in the NICHD sample were .60 for the companionship and recreation subscale, .84 for the validation and caring subscale, .77 for the Help and Guidance subscale, .79 for the Intimate Disclosure subscale, .76 for the Conflict and Betrayal subscale, .77 for the Conflict Resolution subscale, and .89 for the friendship quality total score.

Target children’s peer relationship quality was also assessed by the Child Behavior with Peers Questionnaire (Crick, Bigbee & Howes, 1996; Kochenderfer & Ladd, 1996; Ladd & Profilet, 1996; see Appendix D), a 43-item questionnaire filled out by the child’s teacher at school when children were in the fifth grade during Phase III of data collection. The

questionnaire yields six subscale scores including: Physical Aggression, Prosocial Behavior with Peers, Asocial Behavior with Peers, Exclusion by Peers, Bullying and Victimization, and Relational Aggression. Examples include “Not chosen as playmate by peers” (Exclusion by Peers), “Is an aggressive child” (Aggression), “Threatens other children” (Asocial Behavior with Peers), and “Takes turns with play materials” (Prosocial Behavior with Peers). Items are rated on a 3-point scale including 0 (“*not true*”), 1 (“*sometimes true*”), and 2 (“*often*”). The reliability (internal consistency) estimates of teacher reports on the questionnaire for the NICHD sample were reported to be the following for each individual subscale: .82 for Physical Aggression, .81 for Prosocial Behavior with Peers, .89 for Asocial Behavior with Peers, .90 for Exclusion by Peers, .79 for Bullying and Victimization, and .83 for Relational Aggression.

In addition to considering the composite score on this measure (described below) to test hypotheses, teacher-reported outcomes related to positive peer behavior and negative peer behavior were developed and evaluated for exploratory reasons, more specifically, to examine whether relationships among variables may have been different for positive versus negative peer relationship outcomes. First, the Prosocial Behavior with Peers subscale was used as the teacher rating of positive behavior with peers in the present study. Items within the subscale were averaged; thus, scores can range from 0 to 2, with higher scores reflecting more positive behaviors with peers. In order to determine which subscales should comprise a composite teacher rating of negative behavior within peer relationships, correlations were run among the five remaining subscales: Aggression, Asocial Behavior with Peers, Exclusion by Peers, Bullying and Victimization, and Relational Aggression. Each of the subscales were, at a minimum, moderately correlated with one another, with the exception of the Asocial

Behavior with Peers subscale, which had a weak, but significant, correlation with the Aggression subscale ($r = .116$) and a non-significant correlation with the Relational Aggression subscale ($r = .058$).

Next, a principal components factor analysis using varimax rotation was conducted using all five negative peer relationship subscales. Factors were considered for interpretation when Eigenvalues were greater than one, and more than two subscales had loadings above .40. Results revealed two interpretable factors. The first factor had an Eigenvalue of 2.63 and accounted for 52.60% of the variance. The second factor had an Eigenvalue of 1.30 and accounted for 26.05% of the variance. Upon examination of the two factors, there appeared to be a Social Rejection factor, comprised of the Asocial Behavior with Peers, Exclusion by Peers, and Bullying and Victimization subscales, and an Aggression factor, comprised of Aggression, Relational Aggression, and Bullying and Victimization.

A second principal components factor analysis using varimax rotation was then conducted with all the negative behavior with peers subscales except the Asocial Behavior with Peers subscale, as this subscale was weakly correlated with the other four subscales, as noted above. Again, factors were considered for interpretation with Eigenvalues greater than one and with two or more items loadings above .40. Results revealed only one interpretable factor. This factor, labeled Negative Behavior with Peers, had an Eigenvalue of 2.42 and accounted for 60.53% of the variance. All subscale loadings were above .70.

It was decided to use the Negative Behavior with Peers composite score (excluding the Asocial subscale) to reflect teacher ratings of negative peer outcomes in the present study for a number of reasons. First, the Asocial Behavior with Peers subscale was weakly correlated with several other subscales, suggesting that it was not as strongly related to other

dimensions of negative relationship quality. Second, it was assumed that including more items together (rather than splitting items) on an already brief measure would improve reliability; indeed, the factor with the four subscales was very strong and the alpha coefficient of this composite was .94. Finally, it seemed more parsimonious to test the hypothesized models using one total negative composite rather than using two different negative composites. Possible scores on this composite range from 0 to 2, with higher scores reflecting more negative peer behavior with peers.

Finally, one overall teacher-reported peer outcomes composite was formed based on a factor analysis of all five subscales except Asocial Behaviors with Peers. Again, factors were considered for interpretation with Eigenvalues greater than one and with two or more items loadings above .40. A principal components factor analysis using varimax rotation revealed only one interpretable factor. This factor, labeled Composite Behavior with Peers, had an Eigenvalue of 2.90 and accounted for 57.94% of the variance. All subscale loadings were above .70. The alpha coefficient of this composite was .94. The items from the Prosocial Behavior with Peers subscale were reverse-scored, and all items were then averaged; thus, scores ranged from 0 to 2, with higher scores reflecting more negative behaviors with peers. However, because the Composite Behavior with Peers subscale was composed primarily of the Negative Behavior with Peers subscales, and because the Negative Behavior and Composite Behavior with Peers subscales were so highly correlated ($r = .983$), the Composite Behavior with Peers subscale was not used as an outcome in mediation analyses.

Results

Descriptive Statistics

Descriptive data for study measures are provided in Table 2. As can be seen, participants reported experiencing moderate partner relationship quality overall. Additionally, mothers displayed, on average, fairly high levels of positive caregiving toward target children. Participating children indicated high levels of friendship quality; teachers also reported relatively high levels of prosocial behavior with peers and relatively low levels of negative behavior with peers overall. Because the aforementioned variables appeared to be adequately normally distributed, parametric statistics were used in the current study.

Table 2

Descriptive Data for Study Variables (n = 902)

Variable	Mean	Standard Deviation	Range	Possible Range	Skew	Kurtosis
Partner Quality	6.87	.68	3.15 – 7.95	1 – 9	-1.33	2.28
Positive Caregiving	31.04	5.93	8 - 42	1 - 42	-.74	.65
Child-Report Friendship Quality	4.14	.59	1.85 - 5	1 – 5	-.81	.63
Teacher-Report Prosocial Behavior	1.47	.45	0 - 2	0 – 2	-.80	.16
Teacher-Report Negative Behavior	.28	.32	0 – 1.73	0 – 2	1.60	2.35

Correlations between Study Variables

Inter-correlations among variables are provided in Table 3. The significance level was set at $p < .05$. As can be seen from this table, partner quality was positively related to maternal positive caregiving and teacher report of positive behavior with peers but was negatively correlated with teacher report of negative behavior with peers. Maternal positive caregiving was also positively correlated with teacher report of positive behavior with peers and negatively correlated with teacher report of negative behavior with peers. Child report of friendship quality was positively related to teacher report of positive behavior with peers and negatively related to teacher report of negative behavior with peers. Additionally, teacher report of positive behavior with peers was negatively correlated with teacher report of negative behavior with peers. Finally, child report of friendship quality was not correlated with partner quality or maternal positive caregiving; thus, regression analyses examining possible mediation were not conducted using child report of friendship quality as an outcome variable.

Mediation Analyses

Although significant relationships among partner quality, maternal positive caregiving, and teacher report of behaviors with peers were admittedly weak, indicating relatively low amounts of shared variance, mediation analyses were conducted to test study hypotheses using teacher reports of both positive and negative peer outcomes, given that all variables were significantly associated.

It was hypothesized that parenting behaviors would mediate the relationship between the quality of the partner relationship and school-age children's relationship quality with peers. To test this hypothesis, regression analyses were conducted according to the

Table 3

Associations among Study Variables

Variable	Partner Quality	Positive Caregiving	Child-Report Friendship Quality	Teacher-Report Prosocial Behavior	Teacher-Report Negative Behavior
Partner Quality					
Positive Caregiving	.181**				
Child-Report Friendship Quality	.056	.037			
Teacher-Report Prosocial Behavior	.067	.153**	.121**		
Teacher-Report Negative Behavior	-.119**	-.180**	-.096**	-.612**	

* $p < .05$. ** $p < .01$

recommendations of Baron and Kenny (1986) and Holmbeck (1997). For each teacher-reported child outcome, three regression analyses were conducted: (a) maternal parenting behavior (mediator) was regressed on the quality of the partner relationship (independent variable), (b) child-peer relationship quality (dependent variable) was regressed on the quality of the partner relationship (independent variable), and (c) child-peer relationship quality was regressed on both the quality of the partner relationship and maternal parenting behaviors simultaneously. As noted earlier, the child report of friendship quality was not included as an outcome variable in the mediation analyses because this variable was not correlated with either the quality of the partner relationship or maternal parenting behaviors.

For mediation to be established, the following conditions must be true: (a) a significant association between the quality of the partner relationship and maternal parenting behaviors, (b) a significant association between the quality of the partner relationship and child-peer relationship quality, and (c) a significant association between maternal parenting behaviors and the child-peer relationship quality. In addition, if these conditions are true in the expected direction, the effect of the partner relationship on the child-peer relationship quality must be less when maternal parenting behaviors are taken into account (in the third regression). In the case of perfect mediation, the quality of the partner relationship would have no significant effect on a child's relationship with peers when maternal parenting behaviors are included in the model. In the case of partial mediation, the effect of the quality of the partner relationship on the child's relationship with peers would be significant but reduced (i.e., a smaller coefficient) when maternal parenting behaviors are accounted for.

Furthermore, as another way of examining the hypothesized models, a Sobel Test (Sobel, 1982) was conducted for each model (using the prosocial and negative behavior with peers outcomes).

Analyses for teacher-reported prosocial behavior with peers. The first regression in this series revealed that the quality of the partner relationship was significantly related to maternal positive caregiving in the expected direction, adjusted $R^2 = .032$, $F(1, 889) = 29.97$, $p < .001$. The second regression indicated that the quality of the partner relationship was not significantly related to children's prosocial behavior with peers, adjusted $R^2 = .003$, $F(1, 788) = 3.57$, *ns*. When the quality of the partner relationship and maternal positive caregiving were entered simultaneously as predictors of children's prosocial behavior with peers, the overall model was significant, adjusted $R^2 = .021$; $F(2, 787) = 9.54$, $p < .001$. Maternal positive caregiving was significantly related to children's prosocial behavior with peers ($\beta = .14$, $p < .001$) after controlling for partner relationship quality. However, because the relationship between the quality of the partner relationship and children's prosocial outcomes with peers was non-significant in the second equation, mediation was unable to be established since necessary conditions were not met (see Table 4 for a summary of analyses). Even though mediation per se was not established, additional results revealed a significant indirect effect of partner quality on children's prosocial behavior with peers through maternal positive caregiving (Sobel Test Statistic = 3.05, $p < .001$), indicating that partner quality impacted parenting, which in turn, impacted children's prosocial behaviors.

Analyses for teacher-reported negative behavior with peers. Similar to that noted above, results from the first regression in this series showed that the quality of the partner relationship was significantly related to maternal positive caregiving, adjusted $R^2 = .032$, $F(1,$

889) = 29.97, $p < .001$. The second regression in this series indicated that the quality of the partner relationship was significantly related to children's negative behavior with peers, adjusted $R^2 = .013$, $F(1, 782) = 11.31$, $p < .001$. When the quality of the partner relationship and maternal positive caregiving were entered simultaneously as predictors of children's negative behavior with peers, the overall model was significant, adjusted $R^2 = .035$; $F(2, 781) = 15.11$, $p < .001$. Furthermore, maternal positive caregiving was significantly and negatively related to children's negative behavior with peers ($\beta = -.154$, $p < .001$) after controlling for partner relationship quality. Finally, the relationship between the quality of the partner relationship and children's negative behavior with peers was slightly reduced from the second regression ($\beta = -.119$, $p < .001$) to the third regression ($\beta = -.093$, $p < .010$); therefore, partial mediation was established (see Table 4 for a summary of analyses). Thus, maternal positive caregiving only partially explained the association between partner relationship quality and negative behavior with peers. Furthermore, results from the Sobel Test revealed a significant indirect effect of partner quality on children's negative behavior with peers through maternal positive caregiving (Sobel Test Statistic = 3.47, $p < .001$).

Exploratory Mediation Analyses Controlling for Partner Change

Given the approximate 10-year time difference between the data collected at Phase I and Phase III included in the current study, it seemed likely that a substantial number of participants had some change in partner status, and, furthermore, that stability/change might impact relationships between study variables. Thus, a variable was created to indicate whether any kind of partner status change occurred ($n = 298$) or did not occur ($n = 604$) for the child's mother between the time the child was 1 month of age and in 5th grade.

Table 4

Summary of Mediation Analyses

Variable	Teacher-Report Prosocial Behavior	Teacher-Report Negative Behavior
	β	β
Second Regression		
QPR	.067	-.119**
Adjusted R^2	.003	.013
F Value	3.57	11.31**
Third Regression		
QPR	.043	-.093*
PC	.141**	-.154**
Adjusted R^2	.021	.035
F Value	9.54**	15.11**

Note: QPR = Quality of Partner Relationship, PC = Positive Caregiving

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

This partner change variable was then added into another set of regressions as a covariate in order to examine hypothesized mediation models after controlling for partner change. Per Kenny's recommendation (Retrieved May 20th, 2008, from <http://davidakenny.net/cm/mediate.htm>), this dummy-coded covariate was entered into all three regression equations for the teacher reported prosocial and negative behavior with peers outcomes. A

summary of mediation analyses with partner change included as a covariate is provided in Table 5.

Analyses for teacher-reported prosocial behavior with peers controlling for partner change. In the first regression of the series, there was a significant relationship between the covariate (partner change) and maternal positive caregiving, adjusted $R^2 = .044$, $F(1, 889) = 42.00$, $p < .001$, such that any partner change was associated with less maternal positive caregiving. After controlling for partner change, the quality of the partner relationship was significantly related to maternal positive caregiving in the expected direction, R^2 change = $.020$, F change = 19.48 , $p < .001$; full model adjusted $R^2 = .064$, $F(2, 888) = 31.18$, $p < .001$. In the second regression of the series, there was a significant relationship between the covariate (partner change) and prosocial behavior with peers, adjusted $R^2 = .016$, $F(1, 788) = 13.60$, $p < .001$, such that any partner change was associated with less prosocial behavior with peers. After controlling for partner change, the quality of the partner relationship was not significantly related to children's prosocial behavior with peers, R^2 change = $.002$, F change = 1.49 , *ns*, although the full model was significant, adjusted $R^2 = .016$, $F(2, 787) = 7.55$, $p < .001$. When the quality of the partner relationship and maternal positive caregiving were entered simultaneously as predictors of children's prosocial outcomes with peers after controlling for partner change, the overall model was significant, adjusted $R^2 = .030$; $F(3, 786) = 9.02$, $p < .001$. When the quality of the partner relationship and maternal positive caregiving were entered simultaneously as predictors of children's prosocial outcomes with peers after controlling for partner change, the overall model was significant, adjusted $R^2 = .030$; $F(3, 786) = 9.02$, $p < .001$. Furthermore, maternal positive caregiving was significantly related to children's prosocial outcomes with peers ($\beta = .124$, $p < .001$). However, because

the relationship between the quality of the partner relationship and children's prosocial behaviors with peers was non-significant in the second equation after controlling for partner change, mediation was not able to be established since necessary conditions were not met (see Table 5 for a summary of analyses). Even though mediation per se was not established, additional results revealed a significant indirect effect of partner quality on children's prosocial behavior with peers through maternal positive caregiving after controlling for marital change (Sobel Test Statistic = 2.66, $p < .05$).

Analyses for teacher-reported negative behavior with peers controlling for partner change. Similar to that noted above, results from the first regression in the series showed that there was a significant relationship between the covariate (partner change) and maternal positive caregiving, adjusted $R^2 = .044$, $F(1, 889) = 42.00$, $p < .001$, such that any partner change was associated with less positive caregiving. After controlling for partner change, the quality of the partner relationship was significantly related to maternal positive caregiving in the expected direction, R^2 change = .020, F change = 19.48, $p < .001$; full model adjusted $R^2 = .064$, $F(2, 888) = 31.18$, $p < .001$. In the second regression of the series, there was a significant relationship between the covariate (partner change) and negative behavior with peers, adjusted $R^2 = .035$, $F(1, 782) = 29.27$, $p < .001$, such that any partner change was associated with more negative behavior with peers. After controlling for partner change, the quality of the partner relationship was significantly related to children's negative behavior with peers, R^2 change = .007, F change = 5.94, $p < .05$; the full model was also significant, adjusted $R^2 = .041$, $F(2, 781) = 17.70$, $p < .001$. When the quality of the partner relationship and maternal positive caregiving were entered simultaneously as predictors of children's negative outcomes with peers, after controlling for partner change, the overall model was

significant, adjusted $R^2 = .055$; $F(3, 780) = 16.33$, $p < .001$. Furthermore, maternal positive caregiving was significantly and negatively related to children's negative outcomes with peers after controlling for partner change ($\beta = -.129$, $p < .001$). Finally, the relationship between the quality of the partner relationship and children's negative behavior with peers was reduced from significance in the second regression ($\beta = -.087$, $p < .05$) to non-significance in the third regression ($\beta = -.068$, $p = .06$), and thus, full mediation was established (see Table 5 for a summary of analyses). Furthermore, results from the Sobel Test revealed a significant indirect effect of partner quality on children's negative behavior with peers through maternal positive caregiving after controlling for marital change (Sobel Test Statistic = 2.74, $p < .05$).

Discussion

The present study sought to use longitudinal archive data from the larger NICHD study to examine, over a span of 10 years, the impact of the quality of the partner relationship and parenting behaviors on school-age children's social outcomes with peers during 5th grade. The emotional security hypothesis, put forth by Davies and Cummings (1994), is one plausible theory that helps explain how the quality of the partner relationship, as well as the parent-child relationship, may lead to a child's maladjustment in peer relationships. Similar to attachment theory, the emotional security hypothesis argues that a child's emotional security, a specific aspect of emotional functioning defined by the ability to regulate, organize, and respond to emotional arousal, is derived in part from the quality of the parent-child relationship. However, this theory also posits that a child's emotional security is

Table 5

Summary of Mediation Analyses controlling for Partner Change

Variable	Teacher-Report Prosocial Behavior	Teacher-Report Negative Behavior
	β	β
Second Regression		
Step 1: Partner Change	-.130**	.190**
Adjusted R^2	.016	.035
F Value	13.60**	29.27**
Step 2: QPR	.044	-.087*
Adjusted R^2	.016	.041
R^2 Change	.002	.007*
Full Model F	7.55**	17.70**
Third Regression		
Step 1: Partner Change	-.130**	.190**
Adjusted R^2	.016	.035
F Value	13.60**	29.27**
Step 2: QPR	.026	-.068
PC	.124**	-.129**
Adjusted R^2	.030	.055
R^2 Change	.016**	.023**
Full Model F	9.02**	16.33**

Note: Partner Change coded as 0 = No Change in Partner Status and 1 = Change in Partner Status between 1 month and 5th grade. QPR = Quality of Partner Relationship, PC = Positive Caregiving.

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

additionally influenced by the quality of the marital or partner relationship. In other words, children's beliefs about themselves in relation to others, based on attachment to caregivers and the quality of the partner relationship, generalize to broader working models of relationships and the social environment (Bretherton, Ridgeway, & Cassidy, 1990), which, in turn, influences social behaviors. It was specifically hypothesized that maternal parenting behaviors would mediate the association between the quality of the partner relationship and school-age children's social outcomes with peers. Surprisingly, child report of friendship quality was not significantly correlated with either the quality of the partner relationship or maternal parenting behaviors; thus, it was unable to be used as an outcome variable for mediation analyses in this study. However, it is important to note that child report of friendship quality was significantly correlated with teacher report of behavior with peers, although these correlations are notably weak.

Upon examination of the peer relationship outcome measures used in the current study, it is plausible that the weak correlations between the child- and teacher-reported peer outcomes are a result of the two measures examining somewhat different constructs. This is not necessarily surprising, given that the previous literature examining the quality of the child-peer relationship has historically been defined by researchers in numerous ways, including general social competence (Buehler & Gerard, 2002; Isley et al., 1999; Jaffe et al., 1986; Lindsey et al., 2002; NICHD, 2004), friendship quality (Dunn et al., 2001; Kitzmann & Cohen, 2003), aggression with peers (Cookston et al., 2003; Lindsey et al., 2001; MacKinnon-Lewis & Lofquist, 1996; McCloskey & Stuewig, 2001; Schwartz et al., 1997), bullying and victimization (Jaffe et al., 1986; Schwartz et al., 1997; Stevens et al., 2002), and

other prosocial or asocial behaviors (Cookston et al., 2003; Du Rocher Schudlich et al., 2004; Isley et al., 1999).

In the present study, the child-reported measure appears to examine the child's own perception of the quality of the relationship with his/her best friend. It asks questions about a variety of friendship characteristics, including conflict and conflict resolution experiences, how caring they are toward one another, the extent to which they disclose things to each other, whether they turn to one another for advice, and if they view each other as recreational companions. On the other hand, the teacher-reported measure appears to examine the child's observable behaviors when interacting with peers. In other words, it asks questions about observable positive and negative behaviors with peers, such as whether the child is excluded, aggressive, asocial, or bullied by peers, as well as the extent to which the child displays prosocial behavior toward peers, such as sharing behaviors. Thus, the child-reported peer outcome measure appears to be examining the child's internal perception of the quality of the relationship with one particular best friend, while the teacher-reported peer outcome measure appears to be examining the child's observable positive and negative behaviors with peers in general. Consequently, because the questionnaires appear to be measuring somewhat different constructs, it may not be as surprising that the correlations between the outcome measures were so small. In fact, according to Ledingham, Younger, and Schwartzman (1982), children's self-appraisals and ratings of their own social relationships were found to be only weakly to moderately associated with teacher ratings of observable behaviors with peers, which is consistent with the aforementioned finding in the present study.

Another related surprising finding in the present study was that teacher-reported peer outcomes were associated with the quality of the partner relationship and maternal parenting

behaviors, while the child-reported peer outcomes were not associated with these other study variables. Coie and Dodge (1988) stated that it is especially important to use multi-method assessment when measuring children's social relationships because each measure has certain strengths and limitations, and broader constructs can be difficult to assess. For example, they note that children's perceptions of their social relationships may be biased and undifferentiated, as children may have difficulty recognizing different types of social behaviors within themselves and/or a specific peer. Teachers may provide more differential ratings of the same individual, but their impressions are solely based on the classroom setting. However, Coie and Dodge also indicated that, in general, teachers are more capable of differentiated perceptions than school-age children in particular and are better able to successfully report on qualitative aspects of children's behavior, such as prosocial interactions. Similarly, other researchers (Younger, Schwartzman, & Ledingham, 1985; Younger, Schwartzman, & Ledingham, 1986) have found that teachers are better able to discriminate between different types of behavior with peers, such as being aggressive versus being withdrawn, and that children's own social evaluations, while possibly more predictive of future psychopathology than adult ratings, seem less able to predict children's current social functioning. Like others, these investigators indicated that it is not uncommon for children's ratings to be weakly related to adult ratings of social adjustment. Thus, it is quite possible that teacher-reported social behaviors in the present study yielded a more "accurate" view of children's social relationships and, therefore, was related to other study variables in expected ways.

Because teacher report of behavior with peers was significantly correlated with the other study variables in the expected direction, only teacher-reported outcomes were

examined in the present study in the hypothesized mediation models. The main hypothesis for the present study was that the parent-child relationship, or more specifically maternal parenting behaviors, would mediate the association between partner relationship quality and children's outcomes with peers in 5th grade; that is, partner quality would no longer have a significant effect or would have a reduced effect on peer outcomes when maternal parenting behaviors were accounted for. As previously mentioned, it is also important to note that for exploratory purposes, teacher report of behavior with peers was broken down into prosocial behavior with peers and negative behavior with peers.

For teacher-reported prosocial outcomes with peers, mediation was not established because partner quality during infancy was not found to be significantly associated with children's positive behavior with peers during 5th grade. However, when examining teacher-reported negative outcomes with peers, partial mediation was established. All pathways in the mediation model were significant, and once maternal parenting behaviors were taken into account, the associations between partner quality during infancy and children's negative outcomes during 5th grade were significant but reduced.

One possible reason that there were differential associations between partner relationship quality and prosocial outcomes versus negative outcomes with peers during 5th grade is that children's problematic social behaviors may be more affected by the presence of problems between partners, such as conflict, aggression, or violence, than by the influence of positive partner relationships on positive peer behaviors. In other words, it is possible that children may be more likely to model negative partner interactions in their own social relationships, such that witnessing negative interactions may have longer-lasting and more significant effects on the child's problems in social relationships than witnessing positive

behaviors between partners has on positive interpersonal behaviors. This possibility is supported by some prior literature.

For example, Katz and Woodin (2002) found that marital interactions characterized by negative behaviors, such as contempt, belligerence, criticism, and stonewalling, had a stronger and more detrimental impact on children than marital interactions characterized by positive behaviors, including affection, validation, humor, and listening. More specifically, these authors found that children modeled the negative behaviors more often than the positive behaviors witnessed in marital interactions. Results from other studies (Emery, Cummings & Fincham, 1992; Webster-Stratton & Hammond, 1999) have also indicated that not only are children likely to directly model in peer relationships what they witness in partner interactions, but they are also more apt to model negative marital interactions. For example, Webster-Stratton and Hammond (1999) found that a negative marital conflict style was directly linked to conduct problems in children ages 4 to 7. Similarly, McCloskey and Stuewig (2001) found that children living in a battered women's shelter reported increased social isolation and were less likely to report having a best friend than children who had not resided in a shelter, suggesting that more severe partner conflict had more serious, negative consequences on children's social outcomes with peers than did the absence of conflict on positive outcomes. In conclusion, the differential mediation results for positive versus negative peer outcomes in the current study are not surprising given findings from previous literature that suggest a differential impact of marital quality on children's positive versus negative social behaviors. To address this possibility in the current study, post-hoc analyses were conducted examining the proposed mediation model using only negative constructs (partner conflict, maternal hostility, and teacher-reported negative behavior with peers);

results showed that all associations between variables were smaller than the composite variables originally used. This, however, does not preclude the possibility that there is a differential impact of marital quality on children's positive and negative social behaviors.

The current study also conducted the aforementioned mediation analyses a second time using a covariate for the presence or absence of partner change from the mother's perspective across a 10-year time period, between the target child's birth and 5th grade year, because it was recognized that family composition was likely to change for many study families over such a long time period. Changes within the 10-year time period included marriages, divorces, separations, a partner moving in or out of the home, or going from having a relationship to no relationship. After examining the partner change patterns of the sample used in the current study more closely, it became apparent that these patterns were quite complex. For example, the number of partner changes ranged from 1 to 7 within a 10-year time period. It was also difficult to determine what would be perceived as a positive or negative partner change to different people; for example, divorces may be perceived as either positive or negative from the mother's perspective for different individuals. Consequently, it was decided to use a simple dichotomous covariate indicating either the presence or absence of one or more partner status change over the 10-year time period.

Similar to the first set of mediation analyses, mediation was unable to be established for teacher-reported prosocial outcomes with peers after controlling for partner change. More specifically, the quality of the partner relationship was not significantly related to children's prosocial behavior with peers after controlling for partner change. However, it is important to note that, although mediation was not established using teacher-reported prosocial outcomes with peers after controlling for partner change, partner change itself was significantly related

to maternal positive caregiving and prosocial outcomes with peers in the expected direction. More specifically, partner change was associated with less positive caregiving and less prosocial behavior with peers, suggesting that changes in the mother's partner status had a negative effect on parenting quality and peer relationship quality.

After controlling for partner change, full mediation was established using the teacher-reported negative outcomes with peers. All pathways in these mediation models were significant, and the associations between partner quality and child outcomes were reduced from significance to non-significance after controlling for partner change in regression analyses. In addition, the partner change covariate was significantly related to maternal caregiving quality and negative outcomes with peers in the expected direction, such that partner change was associated with less positive caregiving and more negative behavior with peers. It is important to note, however, that the finding of full mediation may be somewhat misleading, as the correlations between study variables were notably weak to begin with after controlling for partner change, and, thus, it did not take much to reduce the aforementioned associations to non-significance.

Overall, results from the second set of mediation analyses suggest that, in general, any partner change in the child's first 10 years of life is associated with poorer maternal parenting quality and poorer outcomes with peers in school-age children. These findings are consistent with other literature examining the effects of specific types of marital status changes such as divorce and remarriage. For example, Pett, Wampold, Turner, and Vaughan-Cole (1999) found that divorced mothers reported significantly poorer relationship quality with their children of all ages than married mothers. Other studies have also found that social adjustment with peers is more problematic among children from divorced families

than intact families from toddlerhood (Clarke-Stewart, Vandell, McCartney, Owen & Booth, 2000) to adolescence (Hetherington & Clingempeel, 1992). Furthermore, Montgomery, Anderson, Hetherington, and Clingempeel (1992) found that mothers who dated many different partners post-divorce and prior to a remarriage exhibited less warmth and involvement with their children, and their children appeared less socially competent, further supporting the idea that partner changes are associated with poorer parenting as well as poorer social outcomes in children. Taken together, previous literature supports the notion that more changes or instability in partner status is associated with problematic social outcomes in children of all ages, as well as a poorer parent-child relationship quality, as seen in this study.

Additionally, it is also important to acknowledge that although mediation was unable to be established with prosocial behavior with peers as the outcome in the first and second set of mediation analyses, a significant indirect effect was found with and without controlling for marital status change for both prosocial and negative outcomes with peers using the Sobel Test. Thus, the Sobel Test results indicate that partner quality is important for both types of peer outcomes because it is significantly related to parenting, which is, in turn, significantly related to both prosocial and negative behavior with peers. These findings also highlight the importance of parenting, as it has a significant direct effect on children's social outcomes.

Strengths

In summary, the present study contributes to existing knowledge about the impact of partner quality and maternal parenting behaviors on school-age children's social outcomes with peers. There are both strengths and limitations in the current study. One of the important and notable strengths of this study was that it allowed for a longitudinal examination of

family processes over a 10-year time period, as archived data from the NICHD SECC were used. As a result, this study permitted the authors to draw conclusions about the impact of partner quality and maternal parenting behaviors on children's social functioning over time versus an analysis of associations at a single time point in the child's life. A longitudinal design also yields a more powerful analysis of a mediation model than cross-sectional data. Secondly, because the current study used the NICHD data, the sample in the current study was very large and fairly representative of the population in this country, which was the intended goal of the original NICHD sample. The sample size is especially remarkable for the study's prospective design, and attrition was more than acceptable (79%) over a 10-year period.

Another strength of the current study was the multi-informant, multi-method design. According to Coie and Dodge (1988), multiple methods of assessment are preferable when examining children's social adjustment because each type of measure has both strengths and limitations; thus, multi-method assessment offers the most reliable basis for interpretation. In the present study, informants included the mother, the target child, and the child's teacher during 5th grade, and included both questionnaire and observational data. This particular study design reduced the likelihood that the results would be confounded by one particular person's biases, and took into account numerous perspectives from close individuals in the child's life. Coie and Dodge also acknowledge the importance of differential ratings of children's social adjustment across a variety of settings, such as at home and at school, because any one individual has limited access to peer interactions in different social contexts. Furthermore, the parent-child observation task used during Phase II provided researchers with an especially objective view of the parent-child relationship; according to Coie and

Dodge, direct observations provide a more objective measure of these interactions than other assessment methods.

Limitations

Despite these strengths, one limitation of the current study is that the sample used in this particular study (i.e., those with all three waves of data) is not quite as representative of the general population as the larger NICHD sample. More specifically, the subsample used in the present study included more Caucasian individuals and those who appeared to be typically considered higher-functioning, including more married individuals with higher educational degrees who earn higher incomes. Thus, the results from this study may not be generalizable to minorities and more high-risk families. In future studies, it will be important to examine the impact of partner quality and parenting behaviors on children's social outcomes in these different populations. Relatedly, because the sample in this study was fairly homogenous, variance within the study variables was very restricted, with the sample appearing to be quite high-functioning. As a result, it is likely that it was more difficult to detect real relationships among variables, despite large statistical power from the sample size, contributing to notably weak associations. Finally, another limitation in the current study may have been the use of the Love and Relationships Scale (Braiker & Kelley, 1979) to assess partner quality. Although this scale is comprehensive in that it examines multiple different facets of the partner relationship, little research has been conducted using this scale, so the reliability and validity with different types of samples are questionable.

It is also important to acknowledge that there are likely many other influences impacting school-age children's behavior with peers that went unexamined in this study. For example, variables such as child age or developmental status (Bierman & Montminy, 1993),

child gender (Engfer, 1993; Morrison & Matsen, 1991), cultural differences (Ostermann, Bjorkvist, Lagerspetz, & Kaukianen, 1994; Powless & Elliot, 1987), exposure to social competence (Putallaz & Heflin, 1990), and child social cognitions or behavior disorders (Barkley, 1990; Hinshaw, 1994), to name a few, all likely influence a child's social adjustment. As a result, future studies should continue to examine the many different factors that likely impact such a complex phenomenon as children's social behavior.

Conclusions

In conclusion, the findings of the present study showed that over a 10-year period, maternal parenting behaviors observed when the target child was in preschool at least partially mediated the association between mothers' ratings of partner quality when the child was 1 month old, and teacher-reported negative behavior with peers when the child was in 5th grade. Notably, when partner change was controlled for, parenting behaviors fully mediated the aforementioned association. Furthermore, even when mediation was unable to be established for certain outcomes, additional analyses demonstrated a strong indirect effect of partner quality on both types of peer outcomes through maternal parenting. It is important to recognize that although significant relationships were found among study variables in expected ways, the associations between the variables in this study were quite small. In some cases, only a very small amount of reduction was necessary in order to establish mediation in this study. However, it is again important to note that the results of the present study were likely attenuated due to restricted variance of the measures, as well as the homogeneity of the sample, and it is highly probable that the results would have been stronger, as hypothesized based on theory and previous research, if there had been more variance on the measures with a more heterogeneous sample. Nevertheless, because the hypotheses were supported in the

current study over a 10-year period with such a homogenous sample, the fact that significance was found is important.

One particularly surprising finding in this study was that mediation was not able to be established when teacher-reported positive behavior with peers was used as the outcome variable. These results further support the notion that school-age children's social problems may be more impacted by exposure to negative interactions in their home environment than positive social outcomes are impacted by exposure to positive parental interactions. More research is necessary to solidify these findings, as well as to determine how these associations appear in children at different ages.

The results of this study also provide support for the emotional security hypothesis (Davies & Cummings, 1994). However, it is important to recognize that while the emotional security hypothesis posits that both the marital and partner relationship quality, as well as the parent-child relationship, contribute to children's social outcomes, results here indicated that maternal parenting appears to be particularly important for children's social outcomes with peers. For example, maternal parenting was significantly associated with both positive and negative social outcomes, while the partner relationship quality appeared to be associated only with negative social outcomes. In addition, because mediation was established using negative behavior with peers as outcome variables, it is clear that maternal parenting quality at least partially explains the relationship between partner relationship quality and negative social outcomes with peers. Thus, these findings provide clear evidence that maternal parenting more directly contributes to school-age children's social adjustment, which is consistent with what one would expect based on attachment theory (Bowlby, 1969). That is, parent-child interactions influence the child's internalized working models of self and

relationships, which, in turn, guide behavior in future relationships, such as those formed with peers. Future research should continue to examine the importance of the parent-child relationship as well as other contextual variables that may impact children's psychosocial development.

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APPENDICES

Appendix B: Parent-Child Interaction Task Qualitative Rating Scales

- 1 = Very Low
- 2 = Low
- 3 = Moderately Low
- 4 = Moderate
- 5 = Moderately High
- 6 = High
- 7 = Very High

MOTHER RATINGS:

- | | |
|---|---------------|
| 1. Supportive Presence | 1 2 3 4 5 6 7 |
| 2. Respect for Autonomy | 1 2 3 4 5 6 7 |
| 3. Stimulation of Cognitive Development | 1 2 3 4 5 6 7 |
| 4. Quality of Assistance | 1 2 3 4 5 6 7 |
| 5. Hostility | 1 2 3 4 5 6 7 |
| 6. Confidence | 1 2 3 4 5 6 7 |

Appendix C: Friendship Quality Questionnaire

For each question, choose 1-5:

1 = Not at all true

2 = A little true

3 = Somewhat true

4 = Mostly true

5 = Really true

1. _____ and I live really close to each other.
2. _____ and I always sit together at lunch. *If _____ was in my school/class, we would always sit together at lunch.*
3. _____ and I get mad at each other a lot.
4. _____ tells me I'm good at things.
5. If other kids were talking behind my back, _____ would always stick up for me.
6. _____ and I make each other feel important and special.
7. _____ and I always pick each other as partners. *If _____ was in my class, we would always pick each other as partners.*
8. _____ tells me I'm pretty smart.
9. _____ and I are always telling each other about our problems.
10. _____ makes me feel good about my ideas.
11. When I'm mad about something that happened to me, I can always talk to _____ about it.
12. _____ and I argue a lot.
13. When I'm having trouble figuring something out, I usually ask _____ for help and advice.
14. _____ and I always make up easily when we have a fight.
15. _____ and I fight.
16. _____ and I loan each other things all the time.

17. _____ often helps me with things so I can get done quicker.
18. _____ and I always get over our arguments really quickly.
19. _____ and I always count on each other for ideas on how to get things done.
20. _____ doesn't listen to me.
21. _____ and I tell each other private things a lot.

Appendix D: Child Behavior with Peers Questionnaire – Teacher Version

We would like you to describe the study child's behavior with peers. Ratings should be based upon your observation of the child in your classroom, on the playground, at lunch, or anywhere else you have observed this child interacting with peers.

For each question, choose 1-3:

1 = Not true

2 = Sometimes true

3 = Often true

1. Tends to react to other children's distress by teasing them or making things worse
2. Not chosen as playmate by peers
3. Likes to be alone
4. Keeps peers at a distance
5. Peers avoid this child
6. When mad at a peer, gets even by excluding the peer from the group
7. Seems concerned when other children are distressed
8. Is an aggressive child
9. Taunts and teases other children
10. Often unoccupied
11. Threatens other children
12. Spreads rumors or gossips about some peers
13. Takes turns with play materials
14. Kind toward peers
15. Can be trusted, is dependable
16. Listens to classmates
17. When angry at a peer, tries to get other children to stop playing with the peer

18. Is excluded from peers' activities
19. Compromises in conflict with peers
20. Is ignored by peers
21. Is cooperative with peers
22. Loses temper easily in conflicts with peers
23. Argues with peers
24. Friendly toward other children
25. Annoys or irritates other children
26. Is a solitary child
27. Disrupts peers' activities
28. When mad at a peer, ignores the peer or stops talking to the peer
29. Shows concern for moral issues (e.g., fairness, welfare of others)
30. Is ridiculed by peers
31. Avoids peers
32. Offers help or comfort when other children are upset
33. Withdraws from peer activities
34. Will continue to bother or hurt other children even when they are clearly upset
35. Is bossy toward peers
36. Threatens to stop being a peer's friend in order to hurt the peer or to get what is wanted from the peer
37. Is picked on by other children
38. Is called names by peers
39. Is pushed around by other children
40. Peers say negative things about him/her to other children

41. Is teased or made fun of by peers
42. Is hit or kicked by other children
43. Tries to exclude certain peers from peer group activities

