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INTERPARENTAL CONFLICT AND PRESCHOOLERS' NATURALLY-OCCURRING PEER INTERACTIONS: THE MODERATING EFFECTS OF CHILD TEMPERAMENT AND GENDER

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INTERPARENTAL CONFLICT AND PRESCHOOLERS' NATURALLY-OCCURRING PEER INTERACTIONS: THE MODERATING EFFECTS OF CHILD TEMPERAMENT AND GENDER

A Dissertation APPROVED FOR THE
DEPARTMENT OF PSYCHOLOGY

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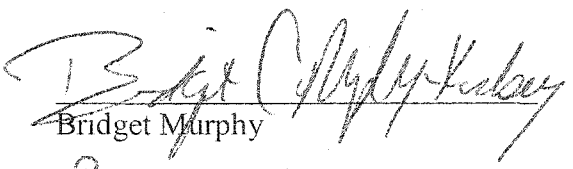

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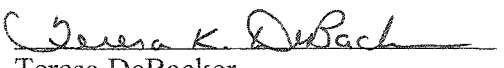

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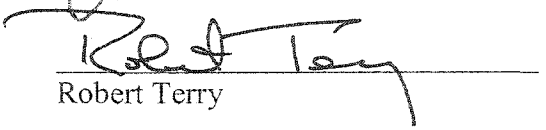

Robert Terry

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Table of Contents

List of Tables

Figure Captions

Abstract

The relations between destructive interparental conflict (IPC) and 3- to 6-year-olds' (N = 74) naturally-occurring peer interactions were examined as a function of child temperament (i.e., effortful control, positive emotionality, and negative emotionality) and gender. Mothers completed reports of IPC, teachers completed measures of the children's temperament, and naturalistic observations were conducted to assess children's interactions with various peers. Effortful control and to a certain extent positive emotionality acted as protective factors, as high IPC was associated with high amount and quality of peer interactions and low negative affect with peers for preschoolers high in effortful control. IPC also was positively related to quality of interactions for children high in positive emotionality. Regarding gender, high IPC was associated with low amount of interaction for girls but not boys. In addition, IPC was negatively related to negative affect with peers for both boys and girls, although this association was stronger for girls. Findings highlight the need for examining individual differences in the relations between IPC and the development of peer relations during early childhood.

Introduction

Researchers have become increasingly interested in studying the effects of interparental conflict (henceforth called IPC) on child development. A "first generation" of research provided a wealth of information regarding the relations between destructive IPC (i.e., frequent and intense conflict) and children's adjustment problems (see Cummings & Davies, 1994, 2002, for reviews). Although relatively little attention has been given to the relations between IPC and more subtle aspects of children's development, such as their peer relations (Katz & Gottman, 1994; Parke et al., 2001), recent work suggests the importance of studying the impact that IPC has on children's relationships outside of the family (e.g., Cookston, Harrist, & Ainslie, 2003; Katz & Gottman, 1994, 1995a; Kitzmann & Cohen, 2003; Lindsey, MacKinnon-Lewis, Campbell, Frabutt, & Lamb, 2002; Stocker & Youngblade, 1999). The associations between IPC and peer relations are particularly important to examine because difficulties with peers during childhood are a lead indicator of later maladjustment and psychopathology (Ladd & Troop-Gordon, 2003; Parker & Asher, 1987).

Recently, an emerging "second generation" of research has focused on identifying children who are particularly at risk for problems as well as factors that protect children from the deleterious effects of destructive IPC (Cummings & Davies, 2002). In particular, theory (e.g., Cummings & Davies, 2002; Grych & Fincham, 1990) and previous research (e.g., Davies & Windle, 2001) suggest that child temperament moderates the impact of IPC on children's adjustment. Yet, the moderating effects of temperament in the context of IPC are not fully understood (Cummings & Davies, 2002) and very little is known about the nature of temperament as a moderator of the relations

between IPC and children's everyday peer interactions. Thus, the primary goals of the present study were to examine the relations between destructive IPC and preschoolers' peer interactions and to assess the extent to which these relations are moderated by individual differences in child temperament. Because previous research also suggests that boys and girls may be affected differently by exposure to IPC (see Davies & Lindsay, 2001, for a review), another goal of this study was to examine the moderating effects of gender in the relations between IPC and young children's peer relations.

IPC and Peer Relations

Theory and previous research suggest that IPC is related to children's peer interactions. In one of the first papers that addressed the impact on children of parents' conflicts, Emery (1982) hypothesized that children learn destructive behavioral patterns by observing their parents' quarrels. Elaborating on this hypothesis, Grych and Fincham (1990) suggested that children exposed to destructive IPC may learn to be aggressive and to use maladaptive problem-solving strategies during interactions with peers.

In their emotional security hypothesis, Davies and Cummings (1994) asserted that exposure to IPC can undermine children's emotional security, hindering their ability to successfully cope with daily problems by promoting emotional dysregulation in response to daily stresses and challenges. Katz and Gottman (1995a) contend that emotional dysregulation can hinder children's abilities to have successful interactions with their peers. Furthermore, to regain some sense of emotional security, children exposed to destructive IPC may act out (i.e., misbehave) to interrupt their parents' bickering (Cummings & Davies, 1994). This misbehavior may temporarily distract parents and end

the conflict, which reinforces the use of such negative behaviors during subsequent exposures to IPC and in other contexts such as peer interactions.

Previous research supports a relationship between IPC and the quality of children's peer relations. For instance, toddlers (Cummings, Iannotti, & Zahn-Waxler, 1985) and preschoolers (Cummings, 1987) become more aggressive towards a peer in a lab setting following exposure to simulated conflict between adult strangers. In addition, parents' reports of IPC are positively related to their reports of school-age children's aggression and problematic peer relations (Marcus, Lindahl, & Malik, 2001; Stocker & Youngblade, 1999) as well as to preschoolers' negativity with unfamiliar peers in a lab setting (e.g., trying to take another child's toy; Cookston et al., 2003). Findings also show that observed marital hostility is positively related to preschoolers' observed negativity and antisocial behaviors with their best friend at home (e.g., negative parallel play, fighting; Katz & Gottman, 1995a). Moreover, Katz and Gottman (1994) found that preschoolers' quality of interaction with their best friend more closely resembled their parents' interactions with one another than the parent-child interactions, suggesting that children learn more about how to behave in relationships from interactions between their parents than from interactions with their parents. Consequently, children exposed to relatively high levels of destructive IPC are particularly likely to exhibit negative behaviors (e.g., provoking behaviors, aggression) during interactions with peers.

It also is believed that consistent exposure to destructive IPC sensitizes children to conflict, resulting in increased negative arousal in response to subsequent conflicts and other stressful interactions (Davies & Cummings, 1994). Consistent with this hypothesis, children from high-conflict homes experience more negative emotional reactions to

simulated conflict than do children from low-conflict homes (Ballard, Cummings, & Larkin, 1993; Cummings, Pellegrini, Notarius, & Cummings, 1989; El-Sheikh, 1997). Furthermore, Gottman and Katz (1989) found that preschoolers from maritally discordant homes had higher levels of stress-related hormones than did other children, and mothers' observed contempt during IPC is positively correlated with preschoolers' observed negative affect with their best friend (Katz & Gottman, 1997). Thus, children from high-conflict homes are likely to become more easily aroused and display more negative emotions with peers than are children from low-conflict homes.

Further, increases in negative reactions to conflict are likely to lead children from high-conflict homes to avoid social situations in an effort to preclude negative arousal (Fabes & Eisenberg, 1992). Grych and Cardoza-Fernandes (2001) hypothesized that children from high-conflict homes learn to expect conflict to be destructive and may become fearful and avoidant when disagreements arise with peers. Moreover, Parke et al. (2001) suggested that children exposed to high levels of IPC may try to avoid conflict and confrontational situations in their own interactions, perhaps as a way of preventing, and thus regulating, their own emotional arousal. Findings provide some support for these hypotheses, indicating that preschoolers from discordant families tend to remain at lower, potentially conflict-free levels of involvement, such as parallel play, with their best friend than preschoolers from non-discordant families (Gottman & Katz, 1989). Thus, children from high-conflict homes are likely to display relatively low levels of involvement with peers and play less with their peers than children from low-conflict homes.

Although theory (Grych & Fincham, 1990; Parke et al., 2001) and research (e.g., Cookston et al., 2003; Katz & Gottman, 1995a; Stocker & Youngblade, 1999) suggest

that IPC exposure is related to children's poor peer relations, the impact of IPC on children's peer relations in general remains somewhat unclear (Parke et al., 2001) and very little is known about the effects of IPC on children's naturally-occurring interactions with a variety of peers. Whereas observations of children's interactions with their best friends (e.g., Katz & Gottman, 1994) provide some information about children's peer relationships, children likely interact with various peers in their everyday lives and it is important to examine the relations between IPC and children's social functioning with a variety of other children, not just their best friends. Indeed, previous work suggests that children's interactions with their best friends are not representative of their interactions with other peers as young children engage in more positive exchanges with friends than with nonfriends and conflicts between preschool friends typically end with negotiation or disengagement and are more likely to have equal resolutions than conflicts between nonfriends (see Rubin, Bukowski, & Parker, 1998, for a review). Thus, preschoolers from high-conflict homes may be more intolerant of and engage in more destructive interactions with nonfriends than with friends. Consequently, the relations between IPC and children's interactions with various peers are likely to be stronger than the relations between IPC and children's interactions with their best friends.

Moreover, although single observations of children's interactions with unfamiliar peers in a lab setting can provide important information regarding their overall level of social competence (e.g., Cookston et al., 2003), such "snapshot" assessments of peer relations do not capture children's everyday interactions with peers that they know and they may include behaviors and emotional expressions that reflect children's adaptability to an unfamiliar situation as much as they reflect the influence of IPC. Therefore, it is

important to study how IPC is related to preschoolers' naturally-occurring interactions with various familiar peers as these interactions likely provide a more ecologically valid assessment of children's typical peer interactions and everyday social functioning.

The Moderating Roles of Temperament and Gender

Although theory and research suggest that IPC is related to children's peer relations, it is unlikely that interparental discord affects all children in the same way. Indeed, Cummings et al. (1985) found that young children who were classified as aggressive based on preceding and concurrent observations of children's interactions with a peer and an adult in a lab setting were particularly likely to show aggression after they witnessed simulated conflict between adults, suggesting that some children are more affected by adults' conflicts than others. Cummings (1987) also found that the level of negative emotion preschoolers expressed in response to interadult conflict varied, such that some children expressed virtually no negative emotions whereas others expressed high levels of negative emotion. More recently, Davies and Forman (2002) found that school-age children could be classified into three distinct emotional security profiles (i.e., secure, dismissing, and preoccupied) based on their emotional, behavioral, and cognitive reactions to simulated conflict.

Cummings (1987) noted that individual differences in responding following exposure to conflict might be due, in part, to temperamental differences. Grych and Fincham (1990) also suggested that aspects of emotionality and regulatory abilities, which are two central components of temperament (Rothbart & Bates, 1998), are likely to be important when considering the effects of IPC. Moreover, Cummings and Davies (2002) concluded that although little is known about temperament as a protective or

potentiating factor in response to IPC, some work (e.g., Cummings, 1987) suggests that individual differences in emotion regulation predict children's levels of aggression and distress in response to interadult anger and future research is needed to further understand the moderating role of temperament in the context of IPC.

Regarding specific aspects of temperament, theory (Derryberry & Rothbart, 1997; Eisenberg, Fabes, Guthrie, & Reiser, 2000; Rothbart & Bates, 1998) and previous research (e.g., Eisenberg et al., 2004; Lengua, Wolchik, Sandler, & West, 2000) suggest that the relations between IPC and children's peer interactions are likely to be moderated by dispositional effortful control, negative emotionality, and positive emotionality.

Rothbart and Bates (1998) defined effortful control as "the ability to inhibit a dominant response to perform a subdominant response" (p. 137). Effortful control reflects dispositional self-regulation and involves the voluntary regulation of attention, behavior, and the more reactive temperament systems such as negative emotionality (Derryberry & Rothbart, 1997; Rothbart, 1989; Rothbart & Bates, 1998). It is believed that high effortful control reflects an optimal level of control because it is flexible and may be more useful for adapting to situational demands than is less voluntary, reactive control (Eisenberg, 2002). Derryberry and Rothbart (1997) suggested that children high in effortful control may be able to disengage from environmental threats and internal feelings of anxiety by focusing their attention on positive aspects of the environment, such that good effortful control likely allows for adaptive actions in contexts where children would otherwise focus on their own distress. Eisenberg and colleagues (Eisenberg et al., 2000; Eisenberg & Fabes, 1992) also contend that children who have

difficulty regulating their emotional arousal are likely to become easily overaroused and overwhelmed by their own negative emotions when they witness others' negative states.

Indeed, parents' reports of 6- to 7-year-olds' effortful control are negatively related to their reports of children's dispositional negative emotionality, suggesting that effortful control may help attenuate negative affect (Rothbart, Ahadi, & Hershey, 1994). Moreover, Eisenberg and colleagues found that parents' and teachers' reports of kindergarten and school-age children's effortful control were concurrently and longitudinally positively related to their ratings of children's resiliency to stress (Eisenberg et al., 2004; Eisenberg, Guthrie, et al., 1997; Eisenberg, Valiente, et al., 2003). Thus, theory and previous work suggest that during exposure to destructive IPC, children high in effortful control may be able to shift their focus from their parents' negative behaviors and emotions to other, more positive aspects of the environment, whereas children low in effortful control may be particularly sensitive to the quarrelling and become overwhelmed by their negative affect. Consequently, the relations between IPC and preschoolers' peer interactions may be stronger for children low in effortful control.

Although previous research has not examined effortful control in the context of IPC, there is some limited work indicating that vagal tone (a physiological index of regulation) buffers children from the negative impact of IPC (El-Sheikh, Harger, & Whitson, 2001; Katz & Gottman, 1995b, 1997). Specifically, observed marital hostility is positively related to children's observed negative affect with their best friend (Katz & Gottman, 1997) and to teachers' ratings of externalizing problems (Katz & Gottman, 1995b) for preschoolers low in vagal tone (reflecting low regulation) but is unrelated to these outcomes for children high in vagal tone. Thus, high effortful control is likely to

buffer preschoolers from the negative effects of IPC on many aspects of their naturally-occurring interactions with various peers (e.g., amount and quality of interactions).

Negative emotionality is another aspect of temperament that may moderate the relations between IPC and preschoolers' peer interactions. Negative emotionality includes individual differences in frequency and amount of anger, discomfort, sadness, fear, and in rates of recovery from peak distress or general arousal (Rothbart, Ahadi, Hershey, & Fisher, 2001). It has been suggested that children high in negative emotionality may exhibit particularly strong responses to stressors (Rothbart & Ahadi, 1994; Rothbart & Bates, 1998) and are likely to become overwhelmed by their own negative arousal when confronted with stressful situations (Eisenberg et al., 2000; Eisenberg & Fabes, 1992), which makes attending to and remembering negative cues more likely (Lemerise & Arsenio, 2000).

Consistent with these theoretical assertions, research with divorced families indicates that school-age children's self-reports of negative emotionality are positively correlated with their reports of perceived threat from recent upsetting life events (Lengua, Sandler, West, Wolchik, & Curran, 1999) and conduct problems (Lengua et al., 2000). Recent work on IPC indicates that mothers' reports of school-age children and adolescents' negative emotional reactions to IPC in the home are positively associated with their externalizing and internalizing problems (Cummings, Goeke-Morey, & Papp, 2003). These findings and other work indicating that school-age children's negative emotionality is negatively related to their resiliency (Eisenberg, Guthrie, et al., 1997; Eisenberg, Valiente, et al., 2003) suggest that the relations between IPC and children's

peer interactions are likely to be stronger for children high in negative emotionality than for children low in negative emotionality.

A third temperament dimension that may moderate the relations between IPC and preschoolers' peer relations is positive emotionality (Cummings et al., 2003). Positive emotionality involves individual differences in frequency and amount of smiling, laughter, pleasure, and sensitivity to positive environmental cues (Lengua et al., 2000; Rothbart, 1989). Although the positive and negative emotionality aspects of temperament are moderately negatively related (e.g., Lengua et al., 2000), evidence demonstrating that they are distinct dimensions has been found across the life span (Rothbart, 1981; Derryberry & Rothbart, 1988; Watson & Tellegen, 1985). Children prone to experiencing positive emotions may be particularly sensitive to positive and rewarding cues in the environment and may perceive stressors as temporary or as having the potential for positive outcomes in the future (Lengua et al., 1999); thus, they may be unlikely to focus on threatening cues in stressful situations, which may facilitate less negative emotional reactions to stressors (Lengua et al., 1999; Rothbart & Ahadi, 1994). Moreover, maintaining a positive emotional state may enable children high in positive emotionality to cope with stressful situations in a constructive manner by facilitating the planning of problem-solving strategies (Lengua et al., 1999).

Despite a paucity of research examining the relations between positive emotionality and adjustment (Lengua, 2002), the limited work that exists indicates that mothers' and school-age children's reports of positive emotionality are associated with relatively low levels of adjustment problems in a divorced sample (Lengua et al., 1999; Lengua et al., 2000) and relatively high levels of positive adjustment (i.e., social

competence and internal well-being) in a community sample (Lengua, 2002). Although their studies did not examine IPC, Lengua and her colleagues have investigated positive emotionality as a moderator of the effects of negative parenting (Lengua et al., 2000) and multiple risk (e.g., single parent status, maternal depression; Lengua, 2002) on school-age children's adjustment. Lengua et al. (2000) found that maternal rejection was positively associated with children's depression and conduct problems for children low in positive emotionality but was unrelated to adjustment problems for children high in positive emotionality, suggesting that positive emotionality buffered children from the negative effects of a rejecting parenting style. Lengua (2002) found that positive emotionality was not a significant moderator of the relations between multiple risk and adjustment, although positive emotionality positively predicted a dichotomous resilience variable reflecting the presence of positive adjustment with low negative adjustment when three or more risk factors were present. In addition, children and adolescents' positive emotional reactions to IPC in the home are associated with low levels of externalizing and internalizing problems (Cummings et al., 2003). Therefore, the abilities of children high in positive emotionality to focus on positive aspects of stressful environments and respond constructively to stressors are likely to protect them from the negative impact that IPC can have on their peer relations.

Another intrapersonal attribute that may moderate the relations between destructive IPC and young children's peer interactions is gender. Indeed, several studies have found gender differences in young children's responses to angry exchanges between adults (e.g., Cummings, Vogel, Cummings, & El-Sheikh, 1989; El-Sheikh, 1994; El-Sheikh, Cummings, & Reiter, 1996). Although it cannot be concluded that either gender

is more or less susceptible to the effects of IPC (Cummings & Davies, 1994), boys' and girls' responses to IPC are qualitatively different (Davies & Lindsay, 2001). Young boys tend to act out by becoming aggressive in response to adults' anger, whereas young girls tend to exhibit distressed, anxious, and concerned reactions to interadult conflict (e.g., El-Sheikh, 1994). Boys' and girls' different responses to IPC may relate to their peer relationships, and so the moderating role of gender was examined in the present study. Specifically, previous research suggested that high levels of IPC would be associated with negative behaviors and emotional expressions during peer interactions for boys but related to lower levels of involvement with peers for girls as they may internalize their feelings in response to IPC and withdraw from high levels of social interaction.

The Present Study

Given the limited research on IPC and children's peer relations (Katz & Gottman, 1994; Parke et al., 2001) and the need for further understanding about which children are particularly at risk and which children are buffered in the context of IPC (Cummings & Davies, 2002), the relations between IPC and preschoolers' naturally-occurring peer interactions were examined as a function of child temperament and gender in the present study. Specifically, the unique moderating effects of dispositional effortful control, negative emotionality, and positive emotionality were examined to determine the extent to which specific aspects of temperament differ in their role in moderating the associations between IPC and children's peer relations.

Previous research suggests a number of reasons why preschool children are particularly important to assess when examining the relations between IPC and peer relations as a function of child temperament. Children increasingly manifest their

reactions to IPC behaviorally during the preschool years such that early childhood is characterized by increases in children's aggressive behavior in response to adults' angry exchanges and attempts to mediate their parents' quarrels (see Davies & Cummings, 1994); thus, preschoolers may be particularly vulnerable to externalizing problems in the context of IPC. Young children also lack a large repertoire of coping strategies (Cummings & Davies, 1994) and their strategies for regulating their own negative affect often rely on physical interaction (Eisenberg, Fabes, & Guthrie, 1997). Moreover, the amount of time that children spend interacting with peers increases substantially across early childhood (Hartup, 1983). Thus, the effects of IPC are particularly likely to be manifested in children's peer interactions during the preschool period and evident during naturalistic observations of their everyday interactions with a variety of peers.

Research also indicates that individual differences in effortful control become fairly well-developed and relatively stable by age 4 (Kochanska, Murray, & Coy, 1997; Reed, Pien, & Rothbart, 1984) and that the negative and positive emotionality dimensions of temperament are relatively stable by the preschool years (see Rothbart & Bates, 1998, for a review). Finally, given the developmental implications that peer relations during childhood have for later adjustment (Ladd & Troop-Gordon, 2003; Parker, & Asher, 1987), it is very important to identify and understand variables that influence the development of peer relations during early childhood.

To assess IPC, mothers completed measures of their own and their partner's behaviors and strategies (e.g., yell, shout, confide in child) in the context of IPC. Previous research indicates that parents' reports of IPC are positively correlated with children's perceptions of IPC (Kerig, 1996). Furthermore, parents' reports of IPC are positively

related to their reports of children's problematic peer relations (Stocker & Youngblade, 1999) and aggression (Marcus et al., 2001), although the relations between mothers' reports of IPC and children's everyday peer interactions have not been assessed.

Inherent in the emotional security hypothesis (Davies & Cummings, 1994) is the assumption that IPC undermines children's emotional security in part because destructive IPC may threaten the emotional bond that children have with the individuals in conflict by reducing the emotional availability or sensitivity of the parents, who serve as a source of emotional security for the child. Thus, in the present study it was required that the individuals with whom the mothers were in conflict were either the child's biological parent, stepparent, foster parent, or a cohabitating partner living with the mother and the child. This approach was taken to ensure that the individual to whom the mother was referring on the IPC questionnaires was a significant parental figure in the child's life.

Preschoolers' peer interactions were assessed with naturalistic observations conducted during free-play at their day-care center. Trained research assistants observed children numerous times over several weeks. Observers coded various aspects of children's peer interactions, including their positive affect with peers, negative affect with peers, amount of peer interaction, quality of peer interactions, and the number of times they provoked a peer. Previous studies on IPC and children's peer relationships have been focused on global assessments of peer relations such as mothers' reports of problematic peer relations (Stocker & Youngblade, 1999), teachers' ratings of aggression towards peers (Katz & Gottman, 1997), and composite scores of observed negativity with peers (Cookston et al., 2003; Katz & Gottman, 1997). Although these measures can provide useful information, IPC is likely to influence specific aspects of children's peer

interactions and little is known about the relations between IPC and particular characteristics of children's peer relationships (Parke et al., 2001). Thus, the present study was one of the first examinations of the relations between IPC and various aspects of children's interactions with peers.

Furthermore, naturalistic observations of children's peer interactions have not been examined in relation to IPC and little is known about the relations between IPC and children's everyday functioning with various peers. Observing children in their day-care is important for understanding the relations between IPC and peer relations because naturalistic observations can provide information regarding children's specific emotional and behavioral reactions towards various peers under a variety of circumstances in their natural setting. Moreover, numerous observations are necessary because multiple assessments provide a wider range of children's interactions than single observations from which conclusions regarding consistent behavioral patterns can be drawn.

To minimize the threat of shared-method variance, teachers completed temperament measures of effortful control, negative emotionality, and positive emotionality. Teachers' reports of child temperament have been used in various studies and they predict children's emotions and behaviors during peer interactions (e.g., Eisenberg, Fabes, Nyman, Bernzweig, & Pinuelas, 1994; Fabes et al., 1999).

Previous work led to a number of hypotheses regarding the relations between IPC and preschoolers' peer interactions. Based on theory (e.g., Davies & Cummings, 1994) and previous research (e.g., Cummings, 1987; Gottman & Katz, 1989; Katz & Gottman, 1995a, 1997), it was hypothesized that IPC would be positively related to children's negative affect with peers and the number of times children provoke their peers and

negatively related to the amount as well as quality of their peer interactions. Yet, based on the lack of theory and research pertaining to IPC and positive adjustment, no specific predictions were made regarding IPC and preschoolers' positive affect with their peers. In addition, theory (e.g., Derryberry & Rothbart, 1997) and research (e.g., Eisenberg et al., 2004; Lengua et al., 2000) led to the prediction that child temperament would moderate the relations between IPC and preschoolers' peer interactions. High effortful control, low negative emotionality, and high positive emotionality were expected to at least partially buffer children from the negative effects of IPC. In particular, it was predicted that IPC would be positively related to negative affect and provoking incidents and negatively related to amount and quality for children low in effortful control, high in negative emotionality, and low in positive emotionality. In contrast, it was expected that IPC would be related to a lesser degree to these variables for children high in effortful control, low in negative emotionality, and high in positive emotionality.

Gender also was expected to moderate the associations between IPC and peer interactions. Based on previous research (e.g., El-Sheikh, 1994; El-Sheikh et al., 1996), it was predicted that IPC would be positively related to negative affect and provoking incidents and negatively related to quality of interactions, particularly for boys. In contrast, it was expected that IPC would be more strongly negatively related to amount of peer interaction for girls than for boys.

Finally, previous research suggested that there likely would be age differences on some of the major variables in the present study. Previous findings indicating that effortful control and regulation in general increase across childhood (Kochanska, Coy, & Murray, 2001; Kochanska, Murray, & Harlan, 2000; Murphy, Eisenberg, Fabes, Shepard,

& Guthrie, 1999) led to the prediction that age would be positively correlated with effortful control. Additionally, Eisenberg and Fabes (1998) concluded that prosocial behaviors generally are more likely as children get older and research indicates that positive interactions and amount of interaction with peers in general increase across the preschool years (see Hartup, 1983, for a review). Thus, it was predicted that age would be positively correlated with amount and quality of peer interactions and negatively related to provoking incidents. However, age was not expected to be related to dispositional negative and positive emotionality, observed positive and negative affect, and IPC.

In summary, very little is known about the relations between IPC and children's peer relations (Katz & Gottman, 1994; Parke et al., 2001) and about the role of temperament as a protective factor in the context of IPC (Cummings & Davies, 2002). Moreover, naturalistic observations of children's interactions with a variety of peers have not been assessed in relation to IPC. Thus, the goals of the present study were to examine the moderating effects of teachers' ratings of child temperament and child gender on the relations between mothers' reports of IPC and children's observed emotions and behaviors during naturally-occurring interactions with various peers in a natural setting.

Method

Participants

Seventy-four mothers and their preschoolers (38 boys and 36 girls; age $M = 4.64$ years, $SD = .98$ years, range = 3.00-6.67 years) participated in the present study. To recruit participants, the author spoke with mothers at five local day-care facilities as they picked up their children. Children were predominately Caucasian (77%), whereas the remaining children were African-American (4%), Native-American (4%), Hispanic (2%),

Asian (1%), and Other or Mixed (12%). The majority of the children lived in two-parent households with no stepparents (62%) and the remaining children lived in single-parent households (19%), two-parent households with a stepparent (13%), two-parent households with foster parents (3%) and extended family households (3%). The mean income of the children's households was $61,718 (*SD* = $42,729) and mean education levels were 14.72 years (*SD* = 2.06) for mothers and 14.70 years (*SD* = 2.83) for fathers.

Procedure

To assess children's peer interactions, trained research assistants observed preschoolers' free-play over a period of several weeks in the children's day-care facility. Approximately halfway through the observation data collection period, mothers were given packets consisting of the IPC questionnaires, a demographic sheet, and a stamped envelope in which they returned the completed questionnaires to the author. Included in each mother's packet was an item to which they responded by noting to whom (e.g., biological parent-spouse, biological parent-ex-spouse, stepparent, dating partner) they were referring when they completed the questionnaires (i.e., who their conflicts were with). Only children whose mothers' were referring to a biological parent, stepparent, foster parent, or cohabitating partner were included in the present study. When the mothers' packets were returned, they were paid $5 as partial compensation for their participation. Teachers who knew the children best completed measures of their temperament and were paid $5 for each child's questionnaires that they completed.

Interparental Conflict Measures

To assess level of destructive IPC, mothers completed a subset of scales from the Conflict and Problem-Solving Scales (CPS; Kerig, 1996). The Frequency, Verbal

Aggression, and Child Involvement scales were used as they reflect aspects of IPC that have been found to be destructive for children's adjustment (see Appendix A; Davies, Forman, Rasi, & Stevens, 2002; also see Cummings & Davies, 2002, for a review). The two items on the Frequency scale assessed how often parents have engaged in minor (e.g., "spats") and major (e.g., "big fights") conflicts over the past year and were answered on a 6-point scale (1 = *once a year or less* to 6 = *just about every day*), $r(72) = .63$, $p = .000$, for the two frequency items. The other two scales assessed the frequency with which each mother and her partner employ the respective strategies during IPC and were answered on a 4-point scale (0 = *never* to 3 = *often*). Specifically, the Verbal Aggression scale assessed the extent to which each mother and her partner yells, makes accusations, and insults their partner (16 items; $\alpha = .90$; e.g., "Raise voice, yell, shout"), whereas the Child Involvement scale assessed the extent to which parents argue in front of the child and involve the child in their quarrels (10 items; $\alpha = .87$; e.g., "Argue when the child might be able to overhear"). The CPS has been shown to be a reliable and valid measure of interparental conflict when completed by mothers (Kerig, 1996).

Mothers also completed the O'Leary-Porter Scale (OPS; Porter & O'Leary, 1980), which consists of 10 items that assessed the frequency with which parents engage in conflict in front of their child (see Appendix B; $\alpha = .71$; e.g., "How often do you and/or your partner display verbal hostility in front of this child?"). Mothers responded to the 10 items on a 5-point scale (0 = *never* to 4 = *very often*). The OPS has been shown to have good internal consistency, test-retest reliability, and concurrent validity (Porter & O'Leary, 1980). Scores from the CPS and OPS scales were subjected to a maximum likelihood factor analysis, which yielded one general factor with the following loadings:

frequency (.64), verbal aggression (.84), child involvement (.71), and OPS (.77). Thus, scores from the CPS and OPS scales were standardized and averaged to form a *destructive IPC* composite that was used in all analyses. Higher scores on this composite reflected higher levels of IPC.

Temperament

To assess child temperament, teachers completed subscales from the Child Behavior Questionnaire (CBQ; Ahadi, Rothbart, & Ye, 1993; Rothbart et al., 1994; Rothbart et al., 2001; see Appendix C) and the Revised Dimensions of Temperament Survey (DOTS-R; Windle & Lerner, 1986; see Appendix D). The CBQ and DOTS-R both have been established as reliable and valid measures of child temperament (Rothbart et al., 2001; Windle & Lerner, 1986).

Effortful control. Based on previous research (Ahadi et al., 1993; Rothbart et al., 2001), effortful control was assessed using the following subscales from the CBQ: 1) Attentional Focusing (9 items; $\alpha = .83$; e.g., "When drawing or coloring in a book, shows strong concentration"), 2) Inhibitory Control (13 items; $\alpha = .94$; e.g., "Is good at following instructions"), 3) Low Intensity Pleasure (13 items; $\alpha = .87$; e.g., "Enjoys just sitting quietly in the sunshine"), and 4) Perceptual Sensitivity (12 items; $\alpha = .81$; e.g., "Seems to listen to even quiet sounds"). For all subscales on the CBQ, teachers were instructed to decide whether each statement is "true" or "untrue" of the child being rated within the past 6 months and to make ratings on a 7-point scale (1 = *extremely untrue of this child* to 7 = *extremely true of this child*).

Negative emotionality. Based on prior work (Ahadi et al., 1993; Rothbart et al., 2001), negative emotionality was assessed with the following subscales from the CBQ: 1)

Anger/Frustration (13 items; α = .88; e.g., "Gets mad when even mildly criticized"), 2) Discomfort (11 items; α = .82; e.g., "Is quite upset by a little cut or bruise"; one item was dropped from the original discomfort scale because it substantially lowered coefficient alpha), 3) Fear (11 items; α = .79; e.g., "Is afraid of loud noises"; one item was dropped from the original fear scale because it substantially lowered alpha), 4) Sadness (10 items; α = .71; e.g., "Sometimes appears downcast for no reason"; two items were dropped from the original sadness scale because they substantially lowered alpha), and 5) Falling Reactivity/Soothability (13 items; α = .83; e.g., "Is easy to soothe when s/he is upset").

Positive emotionality. To assess positive emotionality, teachers completed the Smiling and Laughter subscale of the CBQ (13 items; α = .88; e.g., "Laughs a lot at jokes and silly happenings") and the Mood Quality subscale of the DOTS-R (7 items; α = .91; e.g., "This child's mood is generally cheerful"). For the Mood Quality scale, teachers were instructed to decide how true or false each statement is about the child being rated and to respond using a 4-point scale (1 = *usually false* to 4 = *usually true*).

The scores from the temperament subscales were subjected to a maximum likelihood factor analysis with a varimax rotation, which revealed three factors with the following loadings: 1) attentional focusing (.83), inhibitory control (.95), low intensity pleasure (.71), and perceptual sensitivity (.44); 2) anger (.78), discomfort (.73), fear (.53), sadness (.82), and falling reactivity/soothability (-.51); and 3) smiling and laughter (.88) and mood quality (.83). Thus, the scores loading onto the first factor were averaged to form an *effortful control* composite that was used in subsequent analyses. Higher scores on this composite reflected higher levels of effortful control. Scores loading onto the second factor were averaged to create a *negative emotionality* composite that was used in

all analyses, with higher scores reflecting greater negative emotionality. Finally, since the smiling and laughter and mood quality scores came from two questionnaires with different scales, scores from these two scales were standardized and averaged to create a *positive emotionality* composite that was used in subsequent analyses; higher scores on this composite indicated higher positive emotionality.

Naturalistic Observations

Focal individual time sampling observations (i.e., each child in a class is observed in a random order for a given time period; Shantz & Hobart, 1989) of children's naturally-occurring free-play were conducted in children's classrooms and in the playground when they were outside at their day-care center. Observers had a list of the participants in the class and randomly chose a child to observe for 30 seconds (number of observations $M = 30.55$, $SD = 1.59$). Because children's amount of peer interaction was coded, observers watched children regardless of whether they were by themselves or interacting with other children. To assess interrater reliability, two observers independently observed the same child and coded the observational variables for 36% of the total number of observations. All observers participated in the reliability assessment.

Amount of peer interaction. Observers coded the amount of peer interaction in which children engaged during each observation on a 5-point scale (1 = *no peer interaction* to 5 = *active physical/verbal exchange for virtually all of the observation*), inter-rater $r(808) = .96$, $p < .001$. When coding amount of peer interaction, observers considered the amount of time involved in peer interaction relative to the length of the observation and the types of activities that occurred when children were with peers (e.g., taking part in a back-and-forth discussion with a peer for an entire observation was coded

higher on amount than was parallel play). Specifically, a code of 1 reflected no peer interactions for the entire observation, the middle rating of 3 reflected an even mixture of peer interaction and no interaction, and a code of 5 reflected high levels of peer interaction such that the child engaged in active verbal and/or physical interaction with peers for virtually the entire observation. Each child's amount codes from all of his/her observations were averaged to create an *amount* composite that was used in all analyses.

Quality of peer interactions. Following each observation that involved some peer interaction (i.e., an amount rating greater than 1), observers coded the quality of the child's interactions using a 5-point scale (1 = *very low quality* to 5 = *very high quality*), $r(563) = .86, p < .001$. This code reflected the extent to which children interacted with their peers in a positive and friendly manner and observers considered the focal child's actions, verbalizations, and gestures when coding quality. A code of 1 on quality reflected very unpleasant, tense, and problematic behaviors and verbalizations for the majority of the child's peer interactions. A code of 3 reflected a mixture of slightly pleasant and slightly unpleasant interactions or neutral interactions for the majority of the child's exchanges. A code of 5 reflected very pleasant, positive, and friendly behaviors and verbalizations for the majority of the child's interactions. Each child's quality codes from all of his/her observations involving some peer interaction were averaged to form a *quality* composite that was used in subsequent analyses.

Provoking incidents. During each observation involving some peer interaction, observers recorded the number of times the focal child provoked a peer without first being provoked by the other child (i.e., the focal child did something that potentially could be viewed as oppositional by another child, inter-rater $\kappa = .98$). Provoking events

could have been verbal (e.g., saying, "no, you're wrong"), physical (e.g., hitting), or gestural (e.g., giving dirty looks) oppositions. Furthermore, provoking events did not need to be acknowledged by the other child to be considered provoking and the focal child must have initiated the provocation. Because the participants did not all have equal numbers of observations, proportion scores for provoking events were created for each child (i.e., total number of provoking incidents divided by total number of observations involving some peer interaction) and used as a measure of *provoking incidents* in all analyses.

Negative affect with peers. Following each observation involving some peer interaction, observers coded the focal child's frequency of expressed negative affect during the observation. Codes were made using a 3-point scale (1 = *absence of negative affect*, 2 = *some negative affect*, and 3 = *high negative affect*), $r(563) = .84$, $p < .001$. When coding negative affect, observers focused on the child's facial and verbal cues as well as body postures. A code of 1 reflected the absence of expressed negative emotions such that the child was either neutral or positive throughout the entire observation, a 2 reflected the expression of some negative emotion that did not last for the majority of the time, and a 3 reflected frequent negative affect in the form of negative facial expressions, behaviors, and/or verbalizations lasting for the majority of the observation. Each child's negative affect codes from all of his/her observations involving some peer interaction were averaged to form a *negative affect* composite that was used in subsequent analyses.

Positive affect with peers. Following each observation involving some peer interaction, observers coded the child's frequency of expressed positive affect using a 3-point scale (1 = *absence of positive affect*, 2 = *some positive affect*, and 3 = *high positive*

affect), $r(563) = .90, p < .001$. Observers focused on the child's facial and verbal cues as well as body postures to code positive affect. A code of 1 reflected the absence of positive affect for the entire observation, involving no excitement or laughter and either negative or neutral expressions for all of the observation. A code of 2 reflected some positive affect involving at least some smiling or positive verbalizations and/or actions but not for the majority of time, and a 3 reflected high positive affect involving positive verbalizations and/or actions for the majority of the observation. Each child's positive affect codes from all of his/her observations involving some peer interaction were averaged to create a *positive affect* composite that was used in all analyses.

Results

Preliminary analyses were conducted to examine gender differences, the relations between age and the major variables, and the interrelations between IPC and the other variables. Regression analyses assessing the prediction of preschoolers' peer interactions by IPC, temperament, and gender followed the preliminary analyses. Means and standard deviations for the major variables are presented in Table 1.

Gender Differences

To assess gender differences, two separate multivariate analyses were conducted with gender as the independent variable and the temperament dimensions and the observational variables as the multiple dependent variables, respectively. The omnibus test for temperament was significant, $F(3, 70) = 2.73, p = .05$. Consistent with previous findings (e.g., Eisenberg, Valiente, et al., 2003), girls were rated by teachers as significantly higher on effortful control than were boys, $F(1, 72) = 8.36, p < .01$. However, boys and girls did not differ on negative emotionality and positive

emotionality, $Fs(1, 72) = .26$ and .59, *ns*, respectively. The multivariate test for the observational variables was not significant, $F(5, 68) = 1.91$, *ns*, indicating that there were no gender differences on the variables reflecting children's peer interactions. An AWS *t*-test indicated no gender difference on destructive IPC, $t'(71.992) = -.67$, *ns*.

Relations of Age to Other Variables

Zero-order correlations indicated that age was negatively correlated with negative emotionality and positive emotionality, $r(72) = -.26$ and $-.29$, $ps < .05$, respectively, and positively related to amount of peer interaction, $r(72) = .34$, $p < .01$. However, age was unrelated to IPC, effortful control, quality of interactions, provoking incidents, negative affect with peers, and positive affect with peers, $rs(72) = .05, .09, .15, -.22, -.11$, and $-.04$, *ns*, respectively. Because age was related to several variables, it was controlled for in subsequent analyses.

Interrelations between Destructive IPC and the Other Variables

Contrary to expectations, destructive IPC was not correlated with any of the peer interaction variables. IPC also was unrelated to dispositional effortful control, negative emotionality, and positive emotionality. The zero-order correlations between all of the major variables are presented in Table 2.

Regression Analyses predicting Peer Interactions

To assess the unique main effects of IPC, temperament, and gender, as well as the moderating effects of the three temperament dimensions and gender, separate multiple regression analyses were conducted predicting the five criterion variables reflecting children's peer relations: amount of peer interaction, quality of peer interactions, provoking incidents, negative affect with peers, and positive affect with peers. Consistent

with previous research (Curran & Chassin, 1996; Davies & Windle, 2001), four separate regression analyses were conducted for each criterion variable to assess the individual main effects and moderating effects of the temperament dimensions and gender (i.e., one analysis examining effortful control, one for negative emotionality, one for positive emotionality, and one for gender). Although this method increased the number of regression analyses conducted and the probability of making a type I error (Cohen & Cohen, 1983), this approach was taken to increase power to detect moderator effects, reduce problems associated with multicollinearity, and to identify the unique moderating effects of the different intrapersonal characteristics.

Following the recommendation of Aiken and West (1991), predictor variables were entered hierarchically in the following order for each regression analysis: 1) age (entered as a covariate), 2) the main effects of IPC and the respective temperament dimension or gender, and 3) the two-way interaction between IPC and the respective temperament dimension or between IPC and gender (IPC and positive emotionality scores were already in standardized form and effortful control and negative emotionality were centered before the interaction terms were created). This hierarchical order of entry allowed for the examination of whether the interactions (i.e., the moderating effects) predicted significant variance in preschoolers' peer interactions above and beyond the variance accounted for by the lower order terms (i.e., the covariate and the main effects of IPC and the respective temperament dimension or gender). In initial analyses, gender was entered as a covariate in the analyses including the temperament dimensions but was dropped from the analyses, as it did not change any of the results. Additionally, effortful control was entered as a covariate in the analyses including gender as a moderator but

was dropped because it did not change the results. The three-way interaction between IPC, gender, and each temperament dimension also was entered on the fourth step in initial analyses but was dropped from all analyses, as it was not significant.

Significant two-way interactions were plotted and tested using Aiken and West's (1991) procedures for assessing and mapping interactions in regression. Specifically, for two-way interactions between continuous predictors, the simple regression lines predicting the criterion variable from IPC were plotted for low (-1 SD), medium (mean), and high (+1 SD) values of the moderating variable. For interactions between IPC and gender, the simple regression lines were plotted for males and females. In each case, the simple slopes were examined to determine if they differed significantly from zero.

Prediction of amount of peer interaction. Results from the four separate analyses predicting amount are presented in Table 3. Age significantly predicted amount of peer interaction on the first step of each analysis, with increases in age associated with increases in amount of interaction.

On the second step of the analysis including effortful control, the main effects were not significant, although a significant interaction between destructive IPC and effortful control was found on the third step of the analysis. Specifically, the interaction indicated that IPC was positively related to amount of peer interaction for children high in effortful control but unrelated to amount for those low and medium in effortful control (see Figure 1; the slopes for low, medium, and high effortful control were -.11, .05, and .22, *ns*, *ns*, and $p < .05$, respectively).

The main effects entered as a block on the second step of the analysis examining negative emotionality did not produce a significant change in R^2. In addition, the interaction between IPC and negative emotionality on step 3 was not significant.

Entered as a block on step 2 of the analysis involving positive emotionality, the main effects of IPC and positive emotionality did not significantly predict amount. On the third step, the interaction between IPC and positive emotionality was not significant.

The main effects entered on step 2 of the analysis including gender did not produce a significant change in R^2, although the two-way interaction between IPC and gender on step 3 was significant. The interaction revealed that IPC was negatively related to amount of interaction for girls but unrelated to amount for boys (see Figure 2; the slopes for boys and girls were -.14 and -.49, *ns* and $p < .05$, respectively).

Prediction of quality of peer interactions. Table 4 shows the results of the four separate regression analyses predicting quality. On the first step of each analysis, age did not significantly predict children's quality of peer interactions.

The main effects did not produce a significant change in R^2 on the second step of the analysis examining effortful control. Yet, a significant interaction between IPC and effortful control showed that IPC was positively related to quality for children high in effortful control but somewhat negatively related to quality for children low in effortful control (see Figure 3; the slopes for low, medium, and high effortful control were -.08, .02, and .13, $p < .10$, *ns*, and $p < .05$, respectively).

In the analysis with negative emotionality, the R^2 change produced by the main effects as a block was not significant, although negative emotionality contributed unique variance in the prediction of quality, with increases in negative emotionality associated

with decreases in quality. However, the interaction between IPC and negative emotionality entered on the third step was not significant.

The main effects did not significantly predict quality when positive emotionality was included but the interaction between destructive IPC and positive emotionality was significant on the third step. Specifically, IPC was positively related to quality for children high in positive emotionality and somewhat negatively related to quality for those low in positive emotionality (see Figure 4; the slopes for low, medium, and high positive emotionality were -.07, .02, and .11, $p < .10$, *ns*, and $p < .05$, respectively).

When gender was examined, the main effects entered as a block on step 2 were not significant. In addition, the interaction between IPC and gender entered on step 3 did not significantly predict quality.

Prediction of provoking incidents. The results of the four separate analyses predicting provoking incidents are displayed in Table 5. On the first step of each analysis, age did not predict provoking incidents. The main effects entered as a block on the second step did not significantly predict provoking incidents for any of the analyses, although gender uniquely predicted provoking events, with boys initiating more provocation than girls. None of the two-way interactions entered on the third step were significant for any of the analyses.

Prediction of negative affect with peers. Table 6 displays the results from the four analyses predicting negative affect. Age did not significantly predict negative affect on the first step of each analysis.

When effortful control was examined, the main effects were not significant. However, the interaction between destructive IPC and effortful control was significant, revealing that IPC was negatively associated with negative affect with peers for children high in effortful control but unrelated to negative affect for those low and medium in effortful control (see Figure 5; the slopes for low, medium, and high effortful control were .02, -.01, and -.05, *ns*, *ns*, and $p < .05$, respectively).

On the second step of the analysis with negative emotionality, the main effects as a block did not produce a significant change in R^2. However, negative emotionality accounted for unique variance in the prediction of negative affect, as increases in dispositional negative emotionality were related to increases in negative affect with peers. The interaction between IPC and negative emotionality, however, was not significant.

In the analysis including positive emotionality, the main effects entered as a block on step 2 were not significant. The interaction between IPC and positive emotionality also was not significant in this analysis.

Although the main effects were not significant when gender was examined, findings revealed a significant interaction between IPC and gender when predicting negative affect. Specifically, IPC was significantly negatively related to negative affect with peers for both boys and girls but this association was stronger for girls (see Figure 6; the slopes for boys and girls were -.05 and -.12, *ps* < .05 and .01, respectively).

Prediction of positive affect with peers. The results from the analyses predicting positive affect are presented in Table 7. On the first step of each analysis, age did not significantly predict children's positive affect with peers. There also were no significant main effects or interactions for any of the analyses predicting positive affect.

Discussion

Although some limited research has shown that IPC is associated with young children's peer relationships (e.g., Cookston et al., 2003; Katz & Gottman, 1995a), the present study was one of the first investigations of the moderating role of child temperament in the relations between destructive IPC and preschoolers' naturally-occurring peer interactions. Despite zero-order correlations indicating that IPC was not significantly related to children's peer relations, findings from regression analyses extend previous work by demonstrating that young children's peer relations are affected differently by IPC depending on their levels of dispositional effortful control and to a certain extent positive emotionality. Specifically, high effortful control and positive emotionality seem to serve as buffers in the context of interparental discord, as IPC was positively related to amount and quality of peer interactions and negatively related to negative affect with peers for children high in effortful control, but somewhat negatively related to quality for those low in effortful control. Similarly, IPC related positively to quality of peer interactions for children high in positive emotionality but somewhat negatively to quality for children low in positive emotionality. Gender also moderated the relations between IPC and peer interactions, as higher IPC was associated with lower amount of interaction for girls but not boys. In addition, IPC was negatively related to negative affect with peers for both boys and girls, although this association was stronger for girls. Thus, findings from the present study highlight the importance of considering intrapersonal attributes as sources of individual differences when examining the role of IPC in the development of peer relations.

The lack of a significant IPC main effect was somewhat surprising because correlations between IPC and children's peer relations have been found in previous studies with larger samples than the one used in the present study (e.g., Stocker & Youngblade, 1999), suggesting that significant associations may emerge in a larger sample with greater power to detect modest correlations. Nevertheless, it is important to note that the significant correlations found in previous studies (e.g., Cookston et al., 2003; Stocker & Youngblade, 1999) have been larger in magnitude than those found in the present study and so the lack of significant correlations between IPC and children's peer interactions in the present study likely are not solely due to low levels of power. Moreover, some other researchers have found that IPC does not directly predict children's peer relationships (Lindsey et al., 2002), possibly because different children vary in their reactions to destructive IPC (Cummings, 1987; Davies & Forman, 2002). Indeed, the present findings indicate that the relations between IPC and preschoolers' peer interactions vary as a function of their dispositional effortful control and positive emotionality as well as their gender.

Dispositional effortful control seemed to buffer children from the effects of IPC on peer relations. Effortful control involves the abilities to voluntarily regulate attention, emotion, and behaviors and cognitions that are emotion-related as well as those that are unrelated to emotions (Derryberry & Rothbart, 1997; Eisenberg et al., 2004; Posner & Rothbart, 2000; Rothbart & Bates, 1998). Emotion regulation abilities influence what individuals notice about and the meanings they attribute to social situations (Lemerise & Arsenio, 2000). Although young children in general tend to focus on immediate concerns about their own safety and emotional reactivity during IPC as well as on things they have

done that may have caused the conflict (Grych & Cardoza-Fernandes, 2001), preschoolers high in effortful control may be able to disengage from environmental threats and enhance positive rather than negative aspects of stressful situations such as IPC. Thus, these children's abilities to regulate their attention and arousal likely allow them to evaluate their parents' conflicts from a more detached and less emotional perspective, fostering empathy in the form of sympathy rather than a focus on their own emotional reactions (Eisenberg & Fabes, 1995; Posner & Rothbart, 2000; Rothbart et al., 1994). Experiencing sympathy rather than personal distress during exposure to IPC may lead children high in effortful control to focus on their parents' emotions and on the conflict outcomes such as the parents' interactions immediately following conflict. Further, attending to parents' emotional cues and subsequent interactions may result in a greater awareness of the disruptiveness of negative interactions as preschoolers are able to correctly identify others' emotions as well as situations that cause negative emotions (Barden, Zelko, Duncan, & Masters, 1980; Fabes, Eisenberg, Nyman, & Michealieu, 1991). Thus, preschoolers high in effortful control may be especially motivated to avoid negative interactions and maintain positive interactions in their own relationships.

Interestingly, rather than being unrelated to peer interactions, high IPC was associated with positive peer interactions for children high in effortful control. Parke et al. (2001) suggested that some children exposed to destructive IPC may develop compensatory relationships as a way of avoiding conflicts and angry situations. Children from high-conflict homes may feel displeased and unfulfilled by their parents' interactions and thus, some of them may seek out relationships that counteract the negativity they witness at home. Some recent findings from the Avon Longitudinal Study

of Pregnancy and Childhood (ALSPAC; Dunn et al., 1998) support this idea, as mother-partner hostility significantly predicted friendliness between siblings in early childhood.

Although Parke et al. (2001) emphasized that the factors promoting the development of these forms of relationships are not well understood, it is children high in effortful control who are likely capable of developing compensatory relationships. These children are effective at controlling their behaviors and emotional expressions such that they can approach situations in the face of punishment and avoid situations in the face of immediate cues for reward (Eisenberg, 2002; Posner & Rothbart, 2000). Specifically, Posner and Rothbart note that high effortful control may allow children to shift their attention away from rewarding features of aggression as well as from negative cues related to anger, which is likely to lead to constructive behavior during peer interactions. Indeed, effective emotion regulation during challenging situations makes it possible for children to access and evaluate several behavioral responses as well as consider the situation from multiple perspectives, which increases the likelihood of selecting a competent response (Lemerise & Arsenio, 2000; Saarni, 1999). Thus, children from high-conflict homes who are high in effortful control seem to be resilient to the effects of IPC and develop compensatory relationships with peers that involve primarily positive interactions with low levels of negative emotional expression.

Consistent with previous research (Lengua et al., 2000), positive emotionality also buffered children from the effects of IPC on the quality of their peer interactions. Specifically, IPC was positively related to quality for children high in positive emotionality but somewhat negatively associated with quality for those low in positive emotionality. That high IPC related to high quality of interactions for those children high

in positive emotionality suggests that the protective function of positive emotionality is similar to that of effortful control and that it contributes to stress resiliency by facilitating the development of compensatory relationships with peers (Parke et al., 2001). Moods and emotions can influence what is noticed about social situations and how they are interpreted (Lemerise & Arsenio, 2000) and children with positive dispositions are particularly likely to maintain a positive view of themselves and their situation even when confronted with stressful events (Lengua, 2002; Lengua et al., 2000). Thus, whereas young children in general are likely to focus on aspects of IPC that may threaten their own safety and goals (Grych & Cardoza-Fernandes, 2001), preschoolers high in positive emotionality may attend to positive features of IPC and interpret these interactions in a positively biased manner. For instance, they may perceive their parents' conflicts as a sign of closeness rather than as threatening or upsetting, which can positively affect their internal representations of relationships (Davies & Cummings, 1994) and lead them to develop positive interactions in their own relationships with peers. However, because positive emotionality moderated only the relations between IPC and quality, and research on the protective function of positive emotionality is scarce (Lengua, 2002), this finding should be interpreted with caution and further work is needed to fully examine the role that positive emotionality plays in the context of IPC.

Nevertheless, the tendency of children high in effortful control and to a certain extent those high in positive emotionality who are from high-conflict homes to develop positive peer relations is likely to facilitate their overall adjustment. Children who behave positively and in a prosocial manner with peers tend to be popular and have more friends than other children, which facilitate subsequent peer acceptance, psychological

adjustment, and academic success (see Rubin et al., 1998, for a review). Moreover, although peer interactions were examined as an outcome variable in the present study, the development of compensatory relationships with peers that involve positive interactions and close friendships may buffer children from the effects of IPC (Parke et al., 2001; Wasserstein & La Greca, 1996). Thus, children who are high in effortful control or positive emotionality and from high-conflict homes may be gaining an additional protective mechanism by engaging in positive peers relations, which is likely to further contribute to their resiliency. However, to fully understand the processes underlying the protective roles of effortful control and positive emotionality, future research is needed to examine differences in perceptions and interpretations of IPC between children varying in these dimensions and how they relate to children's peer relationships. Specifically, it would be interesting to interview young children about their parents' conflicts and their interpretations of those events to assess whether children's perceptions of IPC relate to their expectations, beliefs, and interpretations of their peer relations and the extent to which these associations vary as a function of effortful control and positive emotionality.

It is important to note that the relations between IPC and children's peer interactions as a function of effortful control and positive emotionality may differ for children older than those in the present study. Due to immature cognitive abilities, young children are likely to focus on the immediate threat and self-relevance of IPC (Grych & Cardoza-Fernandes, 2001). Indeed, feelings of fear (Cummings, Ballard, El-Sheikh, & Lake, 1991) and threat as well as reports of child blame (Grych, 1998) in response to interadult conflict are more common among younger than older children, suggesting that preschoolers tend to focus on their own well-being during IPC. In contrast, increases in

cognitive sophistication and in effortful control across childhood (Kochanska, Coy, & Murray, 2001; Kochanska, Murray, & Harlan, 2000) likely contribute to older children's focus on trying to figure out why the conflict is occurring, who is responsible for starting it, and what they can do to successfully cope with the situation (Grych & Fincham, 1990). Thus, older children's cognitive abilities may facilitate their understanding of the meaning and outcomes of IPC, which can lead to an increasing awareness of the potential long-term implications of IPC such as parental divorce (Grych & Cardoza-Fernandes, 2001) and result in behavioral outcomes that differ from those associated with self-directed attention during stressful situations (Eisenberg & Fabes, 1992). Furthermore, the relations between IPC and peer interactions may vary with children's age because the nature of children's peer relations changes over time. Specifically, children become increasingly prosocial with peers and concerned about peer acceptance during middle childhood (Rubin et al., 1998).

Given that children likely focus on different aspects of IPC and have qualitatively different peer relationships as they get older, IPC may not contribute to children's peer relations in the same way across development. Indeed, young children tend to exhibit externalizing problems in response to IPC, whereas school-age children and adolescents from high-conflict homes are more likely to develop internalizing symptoms (see Cummings & Davies, 1994, 2002, for reviews), possibly because they are particularly aware of the negative implications of IPC. Thus, older children's understanding and interpretations of IPC may lead them to withdraw from their peers or seek out peers as a source of support rather than engage in disruptive peer interactions following high levels of IPC exposure.

In addition, not only are school-age children and adolescents likely to interpret IPC differently than are younger children, but appraisals of IPC may become increasingly important for children's adjustment following the early childhood period (Dunn & Davies, 2001). Indeed, school-age children's appraisals of threat and self-blame in the context of IPC mediate the relations between IPC and internalizing problems (Grych, Fincham, Jouriles, & McDonald, 2000). Therefore, although the moderating effects of child temperament in the relations between IPC and older children's peer interactions have not been examined, high levels of effortful control and positive emotionality may reduce appraisals of threat and self-blame in the context of IPC and possibly protect older children from internalizing problems that can develop as a result of exposure to destructive IPC.

Findings also indicated that gender moderated the relations between IPC and preschoolers' amount of peer interaction and negative affect with peers. Specifically, IPC was negatively related to amount for girls but not boys and related to negative affect for both boys and girls, although the effect was stronger for girls. Although conceptual explanations of the processes underlying gender differences in the context of IPC are in the early stages of development (Davies & Lindsay, 2001), it has been noted that gender differences in socialization are likely to result in the development of dispositions reflecting agency and self-interest in males and communion and interpersonal connectedness in females (see Ruble & Martin, 1998). Therefore, boys may be particularly focused on themselves during exposure to IPC, whereas girls may be more sensitive to the overall quality of relationships and the implications that conflicts have for relationships than are boys. Indeed, research suggests that young girls are more sensitive

to characteristics of both hypothetical peer conflict (e.g., conflict intensity; David, Murphy, Naylor, & Stonecipher, 2004) and interadult conflict (e.g., resolution; El-Sheikh, Cummings, & Reiter, 1996) than are young boys. Girls' greater sensitivity to the harmful effects of IPC may lead to self-blame and internalizing problems (Davies & Lindsay, 2001; Kerig, 1998), which is likely to result in withdrawing from high levels of involvement with peers (Cummings & Davies, 1994), perhaps as a way of avoiding negative interactions and arousal. Consistent with this idea, children's reports of destructive IPC are positively related to their avoidance of their parents' conflicts, although this association is stronger for girls than for boys (Davies et al., 2002). Thus, girls from high-conflict homes seem to physically and emotionally withdraw from their peers more than do boys, which may reflect young girls' greater sensitivity to the emotional and relational implications of destructive IPC and other negative interactions.

Further, the tendency of young girls from high-conflict homes to withdraw from their peers may have important developmental implications. Withdrawing from peers may lead to later difficulties with peers as children from discordant homes who play at low levels of involvement with peers may not learn the complex interaction skills that are necessary for successful peer interactions (Gottman & Katz, 1989; Grych & Fincham, 1990). In addition, preschool children classified as socially reticent (i.e., children who stand back from groups and remain unoccupied but carefully watch the activities of others) are rated as particularly high on internalizing problems (Henderson, Marshall, Fox, & Rubin, 2004), which girls are particularly vulnerable to in the context of IPC (see Cummings & Davies, 1994, 2002). Thus, a developmental trajectory towards internalizing problems for girls from high-conflict homes may begin with withdrawing

from peer interactions during early childhood, although additional research is needed to examine the mediating role of social withdrawal in the relations between IPC and the development of internalizing problems across childhood and adolescence.

Contrary to predictions, negative emotionality did not moderate the relations between IPC and children's peer interactions, although it was negatively related to quality of peer interactions and positively correlated with provoking incidents and negative affect with peers. These findings are consistent with previous research indicating that dispositional negative emotionality is related to preschoolers' aggression and negativity (Rothbart et al., 1994) but does not moderate the relations between negative parenting styles and conduct problems (Lengua et al., 2000) and between multiple risk and adjustment problems (Lengua, 2002). Although negative emotionality seems to be related independently to negative behaviors with peers, it does not exacerbate the effects of IPC on preschoolers' peer relations, possibly because children high in negative emotionality engage in negative peer interactions regardless of their exposure to IPC.

The tendency of children high in negative emotionality to become overwhelmed by their own emotional reactivity during stressful situations (Eisenberg et al., 2000; Eisenberg & Fabes, 1992) may lead them to choose hostile goals and responses during peer interactions in an effort to reduce their arousal (Lemerise & Arsenio, 2000), even if they have not been exposed to high levels of IPC. In contrast, children low in negative emotionality likely do not become overaroused when exposed to stressful situations such as IPC (Eisenberg & Fabes, 1992) and thus, they may not experience many disruptions in their peer relationships even in the face of high IPC. Thus, the lack of a moderating effect of negative emotionality may be due to an overriding main effect such that high negative

emotionality is related to negative peer relations and low negative affect is associated with more neutral or positive peer relations regardless of IPC exposure. Yet, to fully understand the role of negative emotionality in children's vulnerability, researchers should explore the social information processing (Crick & Dodge, 1994; Lemerise & Arsenio, 2000) of children high in negative emotionality to assess the extent to which they engage in hostile modes of thinking about and responding to social situations such as peer interactions that are particularly rigid and unaffected by stressful events such as IPC.

Interestingly, none of the moderators played a role in predicting children's provoking incidents directed toward peers and their positive affect with peers. The occurrence of provoking incidents was rather low (see Table 1 for mean and standard deviation) with 65% of the children having initiated either zero or only one provoking incident across all of their observations that included some peer interaction. The length of each observation (i.e., 30 seconds) and the requirement that provoking incidents had to occur without the focal child first being provoked by the peer may have played a role in the low occurrence of provoking behaviors. A task for future research is to further investigate this variable by examining IPC in relation to children's oppositional behaviors in and out of the context of peer conflict during longer observations.

The analyses predicting positive affect with peers were exploratory and did not reveal any significant main effects of IPC or moderating effects of temperament and gender. Little is known about the relations between IPC and positive emotional expressions with peers and it is unclear why IPC does not predict positive affect. Destructive IPC typically does not involve or elicit positive emotion and so IPC exposure may not teach children much about the expression of positive affect during interactions

with others. However, additional work examining the relations between IPC exposure and children's expressions of a variety of specific positive (and negative) emotions may provide useful information about the impact of IPC on emotional expressivity.

Some limitations and threats to the validity of the present study require examination. The IPC composite used in the present study was based on mothers' reports. Although parents' reports of IPC are related to children's reports (Kerig, 1996), parents may be unaware of some conflicts that their children have witnessed (Grych, Seid, & Fincham, 1992). Parents and children also often remember emotional events differently because their attention to particular information and goals differ at the time of the events and parents may misconstrue the meaning of events for their children (see Stein, Trabasso, & Liwag, 2000). Nevertheless, when assessing the relations between IPC and preschoolers' peer relations, it is preferable to use parents' reports of IPC rather than children's because young children may not be able to provide reliable information regarding typical interactions between parents (Fincham, 1998). Moreover, parents' reports of IPC are related to children's aggression and problematic peer relations (Marcus et al., 2001; Stocker & Youngblade, 1999) as well as to their negativity with unfamiliar peers (Cookston et al., 2003).

Although the observations in the present study provided valuable information about young children's everyday functioning with various peers, there are several variables pertaining to peer relations that were not assessed and warrant investigation. Specifically, Parke et al. (2001) highlight the importance of studying the relations between specific IPC tactics displayed in the home and children's conflict resolution strategies with peers. It is likely that IPC influences children's repertoire of conflict

tactics and the way they approach conflict resolution in their own, age-appropriate relationships such that children exposed to destructive IPC may exhibit high levels of aggressive behaviors during their own conflicts (Dadds, Atkinson, Turner, Blums, & Lendich, 1999; Kitzmann & Cohen, 2003). Further, although IPC was not significantly related to peer interactions for children low in effortful control or positive emotionality and those high in negative emotionality, it is possible that the effects of IPC on these children's peer relations may be more evident during confrontational situations such as peer conflict. Confrontational and angry exchanges among peers often involve the expression of negative emotions and behaviors and require children to regulate their emotional reactivity and emotion-related behavior (Eisenberg & Fabes, 1992; Hay, 1984; Laursen, Hartup, & Koplas, 1996; Murphy & Eisenberg, 1997). Thus, children from high-conflict homes who have difficulty regulating their emotions or tend to experience high levels of negative affect may be particularly likely to exhibit dysregulation and nonconstructive behavior during peer conflict.

Moreover, although children interacted with various peers in the present study, it is possible that they chose to interact with their friends more often than with other children. Children may carryover what they see in their parents' relationship to their own close, dyadic relationships (Kitzmann & Cohen, 2003), resulting in conflictual and disrupted friendships. Yet, research indicating that children behave more positively with friends than with other peers (see Laursen et al., 1996, and Rubin et al., 1998, for reviews) suggests that children from high-conflict homes may be particularly likely to evidence disruptions in interactions with nonfriends. Thus, if children did play with friends more often than with other peers in the present study, then the relations between

IPC and negative peer interactions for children low in effortful control or positive emotionality and those high in negative emotionality may have been attenuated. However, assessments of children's friendships were not made in the present study and so future research should examine the degree to which the relations between IPC and children's peer interactions vary as a function of relationship.

Additionally, although the use of a community sample to examine the moderating roles of temperament and gender in the relations between IPC and preschoolers' peer interactions provided important information regarding normative developmental processes, these processes may differ in a high-risk sample. For instance, findings from the present study may underestimate the relations between destructive IPC and children's peer relations in a high-risk sample as some parents who engage in very high levels of IPC may have decided not to participate. Indeed, even relatively high scores on the IPC measures in the present study were not particularly high in absolute terms. Moreover, children in the present study attended local day-care centers and the children who have been affected most by high levels of destructive IPC and those who are extremely low in effortful control or high in negative emotionality (e.g., those who display externalizing problems such as extreme forms of aggression) may not be admitted into these day-care facilities; thus, the range of these variables likely was restricted in the present study. Nevertheless, findings do suggest individual differences in the relations between IPC and peer relations that are likely to be evident across various samples.

Furthermore, given that the data are correlational, it is difficult to draw causal conclusions regarding the ways in which temperament and gender moderate the relations between IPC and the development of peer relations. The developmental models likely are

complex. Although dispositional tendencies such as effortful control and positive emotionality can influence learning processes, interpretations of situations, selections of situations, and elicitation of reactions from others (Rothbart & Bates, 1998), environmental factors also can contribute to the development of dispositional tendencies (Caspi, 1998). Indeed, Davies and Cummings (1994) assert that consistent exposure to destructive IPC may contribute to the development of low emotion regulation and Eisenberg et al. (2004) note that despite the biological basis of effortful control, children can learn methods of controlling their emotion, attention, and behavior that foster resilience. The fit of dispositional characteristics with environmental factors also is viewed as an important contributor to developmental outcomes (Rothbart & Bates, 1998). Thus, a variety of pathways are likely across development. Moreover, effortful control may act as a proxy for other variables that play a key role in determining the effects of IPC on children's peer relations. For instance, the abilities involved in voluntary regulation may actually reflect cognitive sophistication and intelligence such that these variables may facilitate resiliency in the context of IPC. Therefore, research is needed to examine the processes by which effortful control buffers children from environmental stressors and the extent to which this dimension is related to other constructs.

Nevertheless, when the present findings are considered together with findings from previous studies in which a variety of measures were obtained, such as physiological measures (e.g., El-Sheikh et al., 2001), and multiple time periods were assessed (e.g., Davies & Windle, 2001), there is increasing support for individual differences in the effects of IPC exposure. Longitudinal work in which a variety of measures of IPC (e.g., child and parent reports), temperament (e.g., parents' reports,

assessments of physiology), and peer relations (e.g., observations, teachers' reports) are obtained at multiple points across childhood and adolescence are necessary to fully understand the influence of IPC on the development of peer relations.

Despite these limitations, the present study is one of the first studies to examine the relations of IPC to young children's naturally-occurring peer interactions as a function of temperament and gender. Findings add to a growing body of research pertaining to the influence of IPC on social development by demonstrating that IPC is differentially related to peer relations for preschoolers varying in effortful control and positive emotionality. Although it has frequently been shown that low effortful control is related to negative outcomes, relatively little is known about the implications of high effortful control for behavior (Murray & Kochanska, 2002) and few studies have examined the role of positive emotionality in adjustment (Lengua, 2002). The present findings demonstrate that high levels of effortful control or positive emotionality buffer children from the deleterious effects of destructive IPC, supporting the hypothesis that these temperament dimensions facilitate resiliency in the face of adversity (Derryberry & Rothbart, 1997; Eisenberg et al., 2004; Eisenberg, Fabes, et al., 1997; Eisenberg, Guthrie, et al., 1997; Lengua, 2002; Lengua et al., 1999, 2000).

Further, although numerous studies have demonstrated that exposure to destructive IPC has negative implications for child development in general (see Cummings & Davies, 1994, 2002, for reviews), the present study is one of the first investigations to suggest the possibility that destructive IPC can have positive effects for some children, particularly children high in effortful control or positive emotionality. Additional research is needed, however, to further explore the conditions under which

IPC can have positive developmental outcomes for particular children. Moreover, given that childhood peer relations have important implications for long-term adjustment (Parker & Asher, 1987), the continued pursuit of identifying variables that interact with IPC in contributing to the development of peer relations is an important task for researchers seeking to ascertain which children are most resilient or vulnerable in high-conflict homes.

References

Ahadi, S. A., Rothbart, M. K., & Ye, R. M. (1993). Children's temperament in the US and China: Similarities and differences. *European Journal of Personality, 7,* 359-377.

Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. Newbury Park, CA: Sage.

Ballard, M. E., Cummings, E. M., & Larkin, K. (1993). Emotional and cardiovascular responses to adults' angry behavior and to challenging tasks in children of hypertensive and normotensive parents. *Child Development, 64,* 500-515.

Barden, R. C., Zelko, F. A., Duncan, S. W., & Masters, J. C. (1980). Children's consensual knowledge about the experiential determinants of emotion. *Journal of Personality and Social Psychology, 39,* 968-976.

Caspi, A. (1998). Personality development across the life-course. In W. Damon (Series Ed.) & N. Eisenberg (Vol. Ed.), *Handbook of child psychology: Vol. 3. Social, emotional, and personality development* (5th ed., pp. 311-388). New York: Wiley.

Cohen, J., & Cohen, P. (1983). *Applied multiple regression/correlation analysis for the behavioral sciences*. Hillsdale, NJ: Erlbaum.

Coie, J. D., & Dodge, K. A. (1998). Aggression and antisocial behavior. In W. Damon (Series Ed.) & N. Eisenberg (Vol. Ed.), *Social, emotional, and personality development: Vol. 3. Handbook of child psychology* (pp.779-862). New York: Wiley.

Cookston, J. T., Harrist, A. W., & Ainslie, R. C. (2003). Affiliative and instrumental marital discord, mother's negative affect, and children's negative interactions with unfamiliar peers. *Journal of Child and Family Studies, 12,* 185-200.

Crick, N. R., & Dodge, K. A. (1994). A review and reformulation of social information-processing mechanisms in children's social adjustment. *Psychological Bulletin, 115,* 74-101.

Cummings, E. M. (1987). Coping with background anger in early childhood. *Child Development, 58,* 976-984.

Cummings, E. M., Ballard, M., El-Sheikh, M., & Lake, M. (1991). Resolution and children's responses to interadult anger. *Developmental Psychology, 27,* 462-470.

Cummings, E. M., & Davies, P. (1994). *Children and marital conflict: The impact of family dispute and resolution*. New York: Guilford.

Cummings, E. M., & Davies. P. T. (2002). Effects of marital conflict on children: Recent advances and emerging themes in process-oriented research. *Journal of Child Psychology and Psychiatry, 43,* 31-63.

Cummings, E. M., Goeke-Morey, M. C., & Papp, L. M. (2003). Children's responses to everyday marital conflict tactics in the home. *Child Development, 74,* 1918-1929.

Cummings, E. M., Iannotti, R. J., & Zahn-Waxler, C. (1985). Influence of conflict between adults on the emotions and aggression of young children. *Developmental Psychology, 21,* 495-507.

Cummings, J. S., Pellegrini, D. S., Notarius, C. I., & Cummings, E. M. (1989). Children's responses to angry adult behavior as a function of marital distress and history of interparent hostility. *Child Development, 60,* 1035-1043.

Cummings, E. M., Vogel, D., Cummings, J. S., & El-Sheikh, M. (1989). Children's responses to different forms of expression of anger between adults. *Child Development, 60,* 1392-1404.

Curran, P. J., & Chassin, L. (1996). A longitudinal study of parenting as a protective factor for children of alcoholics. *Journal of Studies on Alcohol, 57,* 305-313.

Dadds, M. R., Atkinson, E., Turner, C., Blums, G. J., & Lendich, B. (1999). Family conflict and child adjustment: Evidence for a cognitive-contextual model of intergenerational transmission. *Journal of Family Psychology, 13,* 194-208.

David, K. M., Murphy, B. C., Naylor, J. M., & Stonecipher, K. M. (2004). *The effects of conflict role and intensity on preschoolers' expectations about peer conflict.* Manuscript submitted for editorial review.

Davies, P. T., & Cummings, E. M. (1994). Marital conflict and child adjustment: An emotional security hypothesis. *Psychological Bulletin, 116,* 387-411.

Davies, P. T., & Forman, E. M. (2002). Children's patterns of preserving emotional security in the interparental subsystem. *Child Development, 73,* 1880-1903.

Davies, P. T., Forman, E. M., Rasi, J. A., & Stevens, K. I. (2002). Assessing children's emotional security in the interparental relationship: The Security in the Interparental Subsystem Scales. *Child Development, 73,* 544-562.

Davies, P. T., & Lindsay, L. L. (2001). Does gender moderate the effects of marital conflict on children? In J. H. Grych & F. D. Fincham (Eds.), *Interparental conflict and child development: Theory, research, and application* (pp. 64-97). Cambridge, U.K.: Cambridge University Press.

Davies, P. T., & Windle, M. (2001). Interparental discord and adolescent adjustment trajectories: The potentiating and protective role of intrapersonal attributes. *Child Development, 72,* 1163-1178.

Derryberry, D., & Rothbart, M. K. (1988). Arousal, affect, and attention as components of temperament. *Journal of Personality and Social Psychology, 55,* 958-966.

Derryberry, D., & Rothbart, M. K. (1997). Reactive and effortful processes in the organization of temperament. *Development and Psychopathology, 9,* 633-652.

Dunn, J., & Davies, L. (2001). Sibling relationships and interparental conflict. In J. H. Grych & F. D. Fincham (Eds.), *Interparental conflict and child development: Theory, research, and application* (pp. 273-290). Cambridge, U.K.: Cambridge University Press.

Dunn, J., Deater-Deckard, K., Pickering, K., O'Connor, T., Golding, J., & the ALSPAC Study Team. (1998). Children's adjustment and prosocial behaviour in step-, single-parent, and non-stepfamily settings: Findings from a community study. *Journal of Child Psychology and Psychiatry, 39,* 1083-1095.

Eisenberg, N. (2002). Emotion-related regulation and its relation to quality of social functioning. In. W. W. Hartup & R. A. Weinberg (Eds.), *Minnesota Symposium of Child Psychology: Child psychology in retrospect and prospect* (Vol. 32, pp. 133-171). Mahwah, NJ: Erlbaum.

Eisenberg, N., Cumberland, A., Spinrad, T. L., Fabes, R. A., Shepard, S. A., Reiser, M. et al. (2001). The relations of regulation and emotionality to children's externalizing and internalizing problem behavior. *Child Development, 72,* 1112-1134.

Eisenberg, N., & Fabes, R. A. (1992). Emotion, regulation, and the development of social competence. In M. S. Clark (Ed.), *Review of personality and social psychology: Vol. 14. Emotion and social behavior* (pp. 119-150). Newbury Park, CA: Sage.

Eisenberg, N., & Fabes, R. A. (1995). The relation of young children's vicarious emotional responding to social competence, regulation, and emotionality. *Cognition and Emotion, 9,* 203-228.

Eisenberg, N., & Fabes, R. A. (1998). Prosocial development. In W. Damon (Series Ed.) & N. Eisenberg (Vol. Ed.), *Handbook of child psychology: Vol. 3. Social, emotional, and personality development* (5th ed., pp. 701-778). New York: Wiley.

Eisenberg, N., Fabes, R. A., & Guthrie, I. K. (1997). Coping with stress: The roles of regulation and development. In Wolchik & Sandler (Eds.), *Handbook of children's coping: Linking theory and intervention* (pp. 41-70). New York: Plenum Press.

Eisenberg, N., Fabes, R. A., Guthrie, I. K., & Reiser, M. (2000). Dispositional emotionality and regulation: Their role in predicting quality of social functioning. *Journal of Personality and Social Psychology, 78,* 136-157.

Eisenberg, N., Fabes, R. A., Nyman, M., Bernzweig, J., & Pinuelas, A. (1994). The relations of emotionality and regulation to children's anger-related reactions. *Child Development, 65,* 109-128.

Eisenberg, N., Guthrie, I. K., Fabes, R. A., Reiser, M., Murphy, B. C., Holmgren, R., et al. (1997). The relations of regulation and emotionality to resiliency and competent social functioning in elementary school children. *Child Development, 68,* 367-383.

Eisenberg, N., Spinrad, T. L., Fabes, R. A., Reiser, M., Cumberland, A., Shepard, S. A., et al. (2004). The relations of effortful control and impulsivity to children's resiliency and adjustment. *Child Development, 75,* 25-46.

Eisenberg, N., Valiente, C., Fabes, R. A., Smith, C. L., Reiser, M., Shepard, S. A., et al. (2003). The relations of effortful control and ego control to children's resiliency and social functioning. *Developmental Psychology, 39,* 761-776.

El-Sheikh, M. (1994). Children's emotional and physiological responses to interadult angry behavior: The role of history of interparental hostility. *Journal of Abnormal Child Psychology, 22,* 661-678.

El-Sheikh, M. (1997). Children's responses to adult-adult and mother-child arguments: The role of parental marital conflict and distress. *Journal of Family Psychology, 11,* 165-175.

El-Sheikh, M., Cummings, E. M., & Reiter, S. (1996). Preschoolers' responses to interadult conflict: The role of experimentally manipulated exposure to resolved and unresolved arguments. *Journal of Abnormal Child Psychology, 24,* 665-679.

El-Sheikh, M., Harger, J., & Whitson, S. M. (2001). Exposure to interparental conflict and children's adjustment and physical health: The moderating role of vagal tone. *Child Development, 72,* 1617-1636.

Emery, R. E. (1982). Interparental conflict and the children of discord and divorce. *Psychological Bulletin, 92,* 310-330.

Fabes, R. A., & Eisenberg, N. (1992). Young children's coping with interpersonal anger. *Child Development, 63,* 116-128.

Fabes, R. A., Eisenberg, N., Jones, S., Smith, M., Guthrie, I., Poulin, R., et al. (1999). Regulation, emotionality, and preschoolers' socially competent peer interactions. *Child Development, 70,* 432-442.

Fabes, R. A., Eisenberg, N., Nyman, M., & Michealieu, Q. (1991). Young children's appraisals of others' spontaneous emotional reactions. *Developmental Psychology, 27,* 858-866.

Fincham, F. D. (1998). Child development and marital relations. *Child Development, 69,* 543-574.

Gottman, J. M., & Katz, L. F. (1989). Effects of marital discord on young children's peer interaction and health. *Developmental Psychology, 25,* 373-381.

Grych, J. H. (1998). Children's appraisals of interparental conflict: Situational and contextual influences. *Journal of Family Psychology, 12,* 437-453.

Grych, J. H., & Cardoza-Fernandes, S. (2001). Understanding the impact of interparental conflict on children: The role of social cognitive processes. In J. H. Grych & F. D. Fincham (Eds.), *Interparental conflict and child development: Theory, research, and application* (pp. 157-187). Cambridge, U.K.: Cambridge University Press.

Grych, J. H., & Fincham, F. D. (1990). Marital conflict and children's adjustment: A cognitive-contextual framework. *Psychological Bulletin, 108,* 267-290.

Grych, J. H., Fincham, F. D., Jouriles, E. N., & McDonald, R. (2000). Interparental conflict and child adjustment: Testing the mediational role of appraisals in the cognitive-contextual framework. *Child Development, 71,* 1648-1661.

Grych, J. H., Seid, M., & Fincham, F. D. (1992). Assessing marital conflict from the child's perspective: The Children's Perception of Interparental Conflict Scale. *Child Development, 63,* 558-572.

Hartup, W. W. (1983). Peer relations. In P. H. Mussen (Series Ed.) & E. M. Hetherington (Vol. Ed.), *Handbook of child psychology: Vol. 4. Socialization, personality, and social development* (4th ed., pp. 103-196). New York: Wiley.

Hay, D. F. (1984). Social conflict in early childhood. *Annals of Child Development, 1,* 1-44.

Henderson, H. A., Marshall, P. J., Fox, N. A., & Rubin, K. H. (2004). Psychophysiological and behavioral evidence for varying forms and functions of nonsocial behavior in preschoolers. *Child Development, 75,* 251-263.

Katz, L. F., & Gottman, J. M. (1994). Patterns of marital interaction and children's emotional development. In R. D. Parke & S. G. Kellam (Eds.), *Exploring family relationships with other social contexts* (pp. 49-74). Hillsdale, NJ: Erlbaum.

Katz, L. F., & Gottman, J. M. (1995a). Marital interaction and child outcomes: A longitudinal study of mediating and moderating processes. In D. Cicchetti & S. L. Toth (Eds.), *Emotion, cognition, and representation* (pp. 301-342). Rochester, NY: University of Rochester Press.

Katz, L. F., & Gottman, J. M. (1995b). Vagal tone protects children from marital conflict. *Development and Psychopathology, 7,* 83-92.

Katz, L. F., & Gottman, J. M. (1997). Buffering children from marital conflict and dissolution. *Journal of Clinical Child Psychology, 26,* 157-171.

Kerig, P. K. (1996). Assessing the links between interparental conflict and child adjustment: The Conflicts and Problem-Solving Scales. *Journal of Family Psychology, 10,* 454-473.

Kerig, P. K. (1998). Moderators and mediators of the effects of interparental conflict on children's adjustment. *Journal of Abnormal Child Psychology, 26,* 199-212.

Kitzmann, K. M., & Cohen, R. (2003). Parents' versus children's perceptions of interparental conflict as predictors of children's friendship quality. *Journal of Social and Personal Relationships, 20,* 689-700.

Kochanska, G., Coy, K. C., & Murray, K. T. (2001). The development of self-regulation in the first four years of life. *Child Development, 72,* 1091-1111.

Kochanska, G., Murray, K., & Coy, K. C. (1997). Inhibitory control as a contributor to conscience in childhood: From toddler to early school age. *Child Development, 68,* 263-277.

Kochanska, G., Murray, K. T., & Harlan, E. T. (2000). Effortful control in early childhood: Continuity and change, antecedents, and implications for social development. *Developmental Psychology, 36,* 220-232.

Ladd, G. W., & Troop-Gordon, W. (2003). The role of chronic peer difficulties in the development of children's psychological adjustment problems. *Child Development, 74,* 1344-1367.

Laursen, B., Hartup, W. W., & Koplas, A. L. (1996). Towards understanding peer conflict. *Merrill-Palmer Quarterly, 42,* 76-102.

Lemerise, E. A., & Arsenio, W. F. (2000). An integrated model of emotion processes and cognition in social information processing. *Child Development, 71,* 107-118.

Lengua, L. J. (2002). The contribution of emotionality and self-regulation to the understanding of children's response to multiple risk. *Child Development, 73,* 144-161.

Lengua, L. J., Sandler, I. N., West, S. G., Wolchik, S. A., & Curran, P. J. (1999). Emotionality and self-regulation, threat appraisal, and coping in children of divorce. *Development and Psychopathology, 11,* 15-37.

Lengua, L. J., Wolchik, S. A., Sandler, I. N., & West, S. G. (2000). The additive and interactive effects of parenting and temperament in predicting adjustment problems of children of divorce. *Journal of Clinical Child Psychology, 29,* 232-244.

Lindsey, E. W., MacKinnon-Lewis, C., Campbell, J., Frabutt, J. M., & Lamb, M. E. (2002). Marital conflict and boys' peer relationships: The mediating role of mother-son emotional reciprocity. *Journal of Family Psychology, 16,* 466-477.

Marcus, N. E., Lindahl, K. M., & Malik, N. M. (2001). Interparental conflict, children's social cognitions, and child aggression: A test of a mediational model. *Journal of Family Psychology, 15,* 315-333.

Murphy, B. C., & Eisenberg, N. (1997). Young children's emotionality, regulation and social functioning and their responses when they are targets of a peer's anger. *Social Development, 6,* 18-36.

Murphy, B. C., Eisenberg, N., Fabes, R. A., Shepard, S., & Guthrie, I. K. (1999). Consistency and change in children's emotionality and regulation: A longitudinal study. *Merrill-Palmer Quarterly, 46,* 413-444.

Murray, K. T., & Kochanska, G. (2002). Effortful control: Factor structure and relation to externalizing and internalizing behaviors. *Journal of Abnormal Child Psychology, 30,* 503-514.

Parke, R. D., Kim, M., Flyr, M., McDowell, D. J., Simpkins, S. D., Killian, C. M., et al. (2001). Managing marital conflict: Links with children's peer relationships. In J. H. Grych & F. D. Fincham (Eds.), *Interparental conflict and child development: Theory, research, and application* (pp. 291-314). Cambridge, U.K.: Cambridge University Press.

Parker, J. G., & Asher, S. R. (1987). Peer relations and later personal adjustment: Are low-accepted children at risk? *Psychological Bulletin, 102,* 357-389.

Porter, B., & O'Leary, K. D. (1980). Marital discord and childhood behavior problems. *Journal of Abnormal Child Psychology, 8,* 287-295.

Posner, M. I., & Rothbart, M. K. (2000). Developing mechanisms of self-regulation. *Development and Psychopathology, 12,* 427-441.

Reed, M., Pien, D. L., & Rothbart, M. K. (1984). Inhibitory self-control in preschool children. *Merrill-Palmer Quarterly, 30,* 131-147.

Rothbart, M. K. (1981). Measurement of temperament in infancy. *Child Development, 52,* 569-578.

Rothbart, M. K. (1989). Temperament and development. In G. A. Kohnstamm, J. E. Bates, & M. K. Rothbart (Eds.), *Temperament in childhood* (pp. 187-247). Oxford, England: Wiley.

Rothbart, M. K., & Ahadi, S. A. (1994). Temperament and the development of personality. *Journal of Abnormal Psychology, 103,* 55-66.

Rothbart, M. K., Ahadi, S. A., & Hershey, K. L. (1994). Temperament and social behavior in childhood. *Merrill-Palmer Quarterly, 40,* 21-39.

Rothbart, M. K., Ahadi, S. A., Hershey, K. L., & Fisher, P. (2001). Investigations of temperament at three to seven years: The Children's Behavior Questionnaire. *Child Development, 72,* 1394-1408.

Rothbart, M. K., & Bates, J. E. (1998). Temperament. In W. Damon (Series Ed.) & N. Eisenberg (Vol. Ed.), *Handbook of child psychology: Vol. 3. Social, emotional, and personality development* (5th ed., pp. 105-176). New York: Wiley.

Rubin, K. H., Bukowski, W., & Parker, J. G. (1998). Peer interactions, relationships, and groups. In W. Damon (Series Ed.) & N. Eisenberg (Vol. Ed.), *Handbook of child psychology: Vol. 3. Social, emotional, and personality development* (5th ed., pp. 619-700). New York: Wiley.

Ruble, D. N., & Martin, C. L. (1998). Gender development. In W. Damon (Series Ed.) & N. Eisenberg (Vol. Ed.), *Handbook of child psychology: Vol. 3. Social, emotional, and personality development* (5th ed., pp. 933-1016). New York: Wiley.

Saarni, C. (1999). *The development of emotional competence.* New York: Guilford.

Shantz, C. U., & Hobart, C. J. (1989). Social conflict and development. In T. J. Berndt & G. W. Ladd (Eds.), *Peer relationships in child development* (pp. 71-94). New York: Wiley.

Stein, N. L., Trabasso, T., & Liwag, M. D. (2000). A goal appraisal theory of emotional understanding: Implications for development and learning. In M. Lewis & J. M. Haviland-Jones (Eds.), *Handbook of Emotions* (pp. 436-457). New York: Guildford.

Stocker, C. M., & Youngblade, L. (1999). Marital conflict and parental hostility: Links with children's sibling and peer relationships. *Journal of Family Psychology, 13,* 598-609.

Wasserstein, S. B., & La Greca, A. M. (1996). Can peer support buffer against behavioral consequences of parental discord? *Journal of Clinical Child Psychology, 25,* 177-182.

Watson, D., & Tellegen, A. (1985). Toward a consensual structure of mood. *Psychological Bulletin, 98,* 219-235.

Windle, M., & Lerner, R. M. (1986). Reassessing the dimensions of temperamental individuality across the life span: The Revised Dimensions of Temperament Survey (DOTS-R). *Journal of Adolescent Research, 1,* 213-230.

Table 1

Means and Standard Deviations for the Major Variables

	Total		Girls		Boys	
Measure	*M*	*SD*	*M*	*SD*	*M*	*SD*
Destructive IPC[a]	.00	.81	-.07	.79	.06	.83
Temperament						
Effortful Control[b]	4.32	.75	4.56	.63	4.08	.79
Negative Emotionality[b]	4.09	.60	4.05	.67	4.12	.53
Positive Emotionality[a]	.00	.94	.09	.89	-.08	.99
Peer Interactions						
Amount[c]	2.69	.57	2.64	.55	2.74	.58
Quality[c]	3.60	.26	3.63	.25	3.58	.27
Provoking[d]	.08	.09	.06	.06	.09	.11
Negative Affect[e]	1.09	.09	1.11	.11	1.08	.08
Positive Affect[e]	1.50	.18	1.53	.16	1.48	.19

[a]composite of standardized scores from more than one questionnaire; [b]possible scores ranged from 1-7; [c]possible scores ranged from 1-5; [d]proportion scores from 0-1; [e]possible scores ranged from 1-3.

Table 2

Zero-Order Correlations between the Major Variables

Variable	1	2	3	4	5	6	7	8	9
1. Destructive IPC	1.0								
2. Effortful Control	.16	1.0							
3. Negative Emotionality	-.20^{+}	-.27*	1.0						
4. Positive Emotionality	.09	.28*	.06	1.0					
5. Amount of Peer Interaction	.08	.08	.00	.10	1.0				
6. Quality of Peer Interaction	.08	.19^{+}	-.29*	.10	.47***	1.0			
7. Provoking Incidents	-.10	-.09	.25*	.06	-.17	-.52***	1.0		
8. Negative Affect with Peers	-.12	-.14	.27*	.01	.14	-.35**	.12	1.0	
9. Positive Affect with Peers	-.02	.03	-.13	.17	.18	.40***	-.20^{+}	.04	1.0

$^{+}p < .10$; $^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$.

Table 3

Regression Analyses Predicting Amount of Peer Interaction

	Amount of Peer Interaction		
Predictors	R^2 Change	*F* for Step	Beta
Analysis with Effortful Control:			
Step 1	.12	9.40**	
Age (in months)			.02**
Step 2	.01	.23	
Destructive IPC			.04
Effortful Control			.03
Step 3	.06	4.86*	
IPC x Effortful Control			.23*
Analysis with Negative Emotionality:			
Step 1	.12	9.40**	
Age (in months)			.02**
Step 2	.02	.77	
Destructive IPC			.06
Negative Emotionality			.12
Step 3	.03	2.46	
IPC x Negative Emotionality			-.21

Table 3 continued

Regression Analyses Predicting Amount of Peer Interaction

	Amount of Peer Interaction		
Predictors	R^2 Change	*F* for Step	Beta
Analysis with Positive Emotionality:			
Step 1	.12	9.40**	
Age (in months)			.02**
Step 2	.04	1.64	
Destructive IPC			.03
Positive Emotionality			.12+
Step 3	.00	.29	
IPC x Positive Emotionality			.05
Analysis with Gender:			
Step 1	.12	9.40**	
Age (in months)			.02**
Step 2	.01	.25	
Destructive IPC			.04
Gender			.05
Step 3	.06	5.18*	
IPC x Gender			.35*

$^{+}p < .10$; $^{*}p < .05$; $^{**}p < .01$.

Table 4

Regression Analyses Predicting Quality of Peer Interactions

Predictors	Quality of Peer Interactions		
	R^2 Change	*F* for Step	Beta
Analysis with Effortful Control:			
Step 1	.02	1.71	
Age (in months)			.00
Step 2	.04	1.30	
Destructive IPC			.02
Effortful Control			.06
Step 3	.10	7.98**	
IPC x Effortful Control			.14**
Analysis with Negative Emotionality:			
Step 1	.02	1.71	
Age (in months)			.00
Step 2	.06	2.46+	
Destructive IPC			.01
Negative Emotionality			-.11*
Step 3	.01	.44	
IPC x Negative Emotionality			-.04

Table 4 continued

Regression Analyses Predicting Quality of Peer Interactions

Predictors	Quality of Peer Interactions		
	R^2 Change	*F* for Step	Beta
Analysis with Positive Emotionality:			
Step 1	.02	1.71	
Age (in months)			.00
Step 2	.03	.91	
Destructive IPC			.02
Positive Emotionality			.04
Step 3	.07	5.23*	
IPC x Positive Emotionality			.10*
Analysis with Gender:			
Step 1	.02	1.71	
Age (in months)			.00
Step 2	.02	.79	
Destructive IPC			.03
Gender			-.07
Step 3	.01	.56	
IPC x Gender			-.06

$^{+}p < .10$; $^{*}p < .05$; $^{**}p < .01$.

Table 5

Regression Analyses Predicting Provoking Incidents

Predictors	Provoking Incidents		
	R^2 Change	*F* for Step	Beta
Analysis with Effortful Control:			
Step 1	.05	3.63^{+}	
Age (in months)			.00^{+}
Step 2	.01	.42	
Destructive IPC			-.01
Effortful Control			-.01
Step 3	.01	1.04	
IPC x Effortful Control			-.02
Analysis with Negative Emotionality:			
Step 1	.05	3.63^{+}	
Age (in months)			.00^{+}
Step 2	.04	1.54	
Destructive IPC			-.01
Negative Emotionality			.03
Step 3	.03	2.42	
IPC x Negative Emotionality			.04

Table 5 continued

Regression Analyses Predicting Provoking Incidents

Predictors	Provoking Incidents		
	R^2 Change	*F* for Step	Beta
Analysis with Positive Emotionality:			
Step 1	.05	3.63^{+}	
Age (in months)			.00^{+}
Step 2	.01	.30	
Destructive IPC			-.01
Positive Emotionality			.00
Step 3	.00	.12	
IPC x Positive Emotionality			-.01
Analysis with Gender:			
Step 1	.05	3.63^{+}	
Age (in months)			.00^{+}
Step 2	.06	2.40^{+}	
Destructive IPC			-.01
Gender			.04*
Step 3	.01	.67	
IPC x Gender			.02

$^{+}p < .10$; $^{*}p < .05$; $^{**}p < .01$.

Table 6

Regression Analyses Predicting Negative Affect with Peers

	Negative Affect with Peers		
Predictors	R^2 Change	*F* for Step	Beta
Analysis with Effortful Control:			
Step 1	.01	.92	
Age (in months)			.00
Step 2	.03	.98	
Destructive IPC			-.01
Effortful Control			-.02
Step 3	.08	6.31*	
IPC x Effortful Control			-.04*
Analysis with Negative Emotionality:			
Step 1	.01	.92	
Age (in months)			.00
Step 2	.07	2.61+	
Destructive IPC			-.01
Negative Emotionality			.04*
Step 3	.00	.07	
IPC x Negative Emotionality			.01

Table 6 continued

Regression Analyses Predicting Negative Affect with Peers

	Negative Affect with Peers		
Predictors	R^2 Change	*F* for Step	Beta
Analysis with Positive Emotionality:			
Step 1	.01	.92	
Age (in months)			.00
Step 2	.01	.49	
Destructive IPC			-.01
Positive Emotionality			.00
Step 3	.03	1.99	
IPC x Positive Emotionality			-.02
Analysis with Gender:			
Step 1	.01	.92	
Age (in months)			.00
Step 2	.03	1.09	
Destructive IPC			-.01
Gender			-.02
Step 3	.09	7.04*	
IPC x Gender			.07*

$^{+}p < .10$; $^{*}p < .05$; $^{**}p < .01$.

Table 7

Regression Analyses Predicting Positive Affect with Peers

Predictors	Positive Affect with Peers		
	R^2 Change	*F* for Step	Beta
Analysis with Effortful Control:			
Step 1	.00	.12	
Age (in months)			.00
Step 2	.00	.05	
Destructive IPC			-.01
Effortful Control			.01
Step 3	.03	2.03	
IPC x Effortful Control			.05
Analysis with Negative Emotionality:			
Step 1	.00	.12	
Age (in months)			.00
Step 2	.03	.92	
Destructive IPC			-.01
Negative Emotionality			-.05
Step 3	.00	.23	
IPC x Negative Emotionality			-.02

Table 7 continued

Regression Analyses Predicting Positive Affect with Peers

Predictors	Positive Affect with Peers		
	R^2 Change	*F* for Step	Beta
Analysis with Positive Emotionality:			
Step 1	.00	.12	
Age (in months)			.00
Step 2	.03	1.06	
Destructive IPC			-.01
Positive Emotionality			.03
Step 3	.00	.13	
IPC x Positive Emotionality			.01
Analysis with Gender:			
Step 1	.00	.12	
Age (in months)			.00
Step 2	.02	.73	
Destructive IPC			.00
Gender			-.05
Step 3	.00	.05	
IPC x Gender			-.01

$^{+}p < .10$; $^{*}p < .05$; $^{**}p < .01$.

Figure 1. Prediction of Amount of Peer Interaction by IPC and Effortful Control

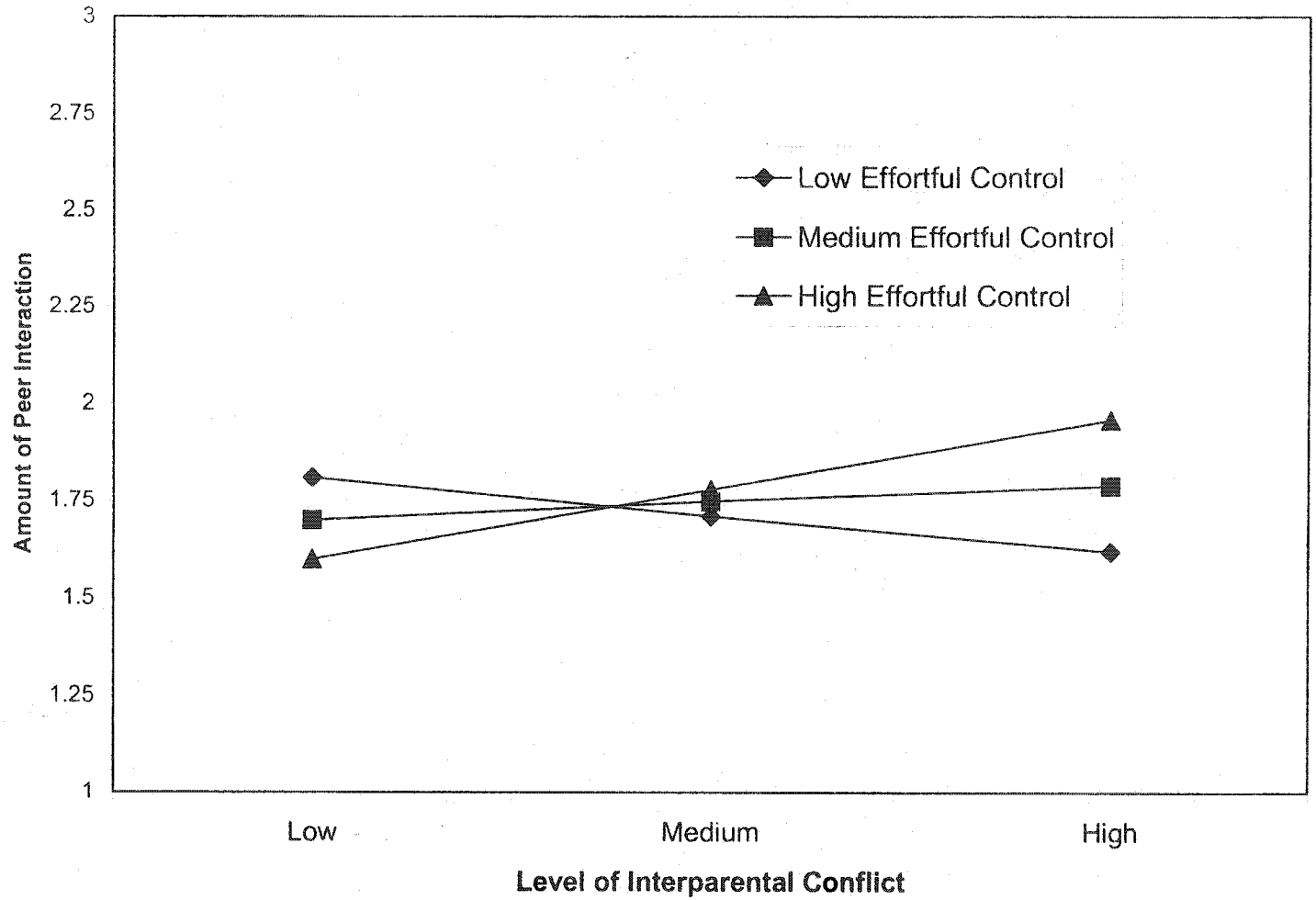


Figure 2. Prediction of Amount of Peer Interaction by IPC and Gender

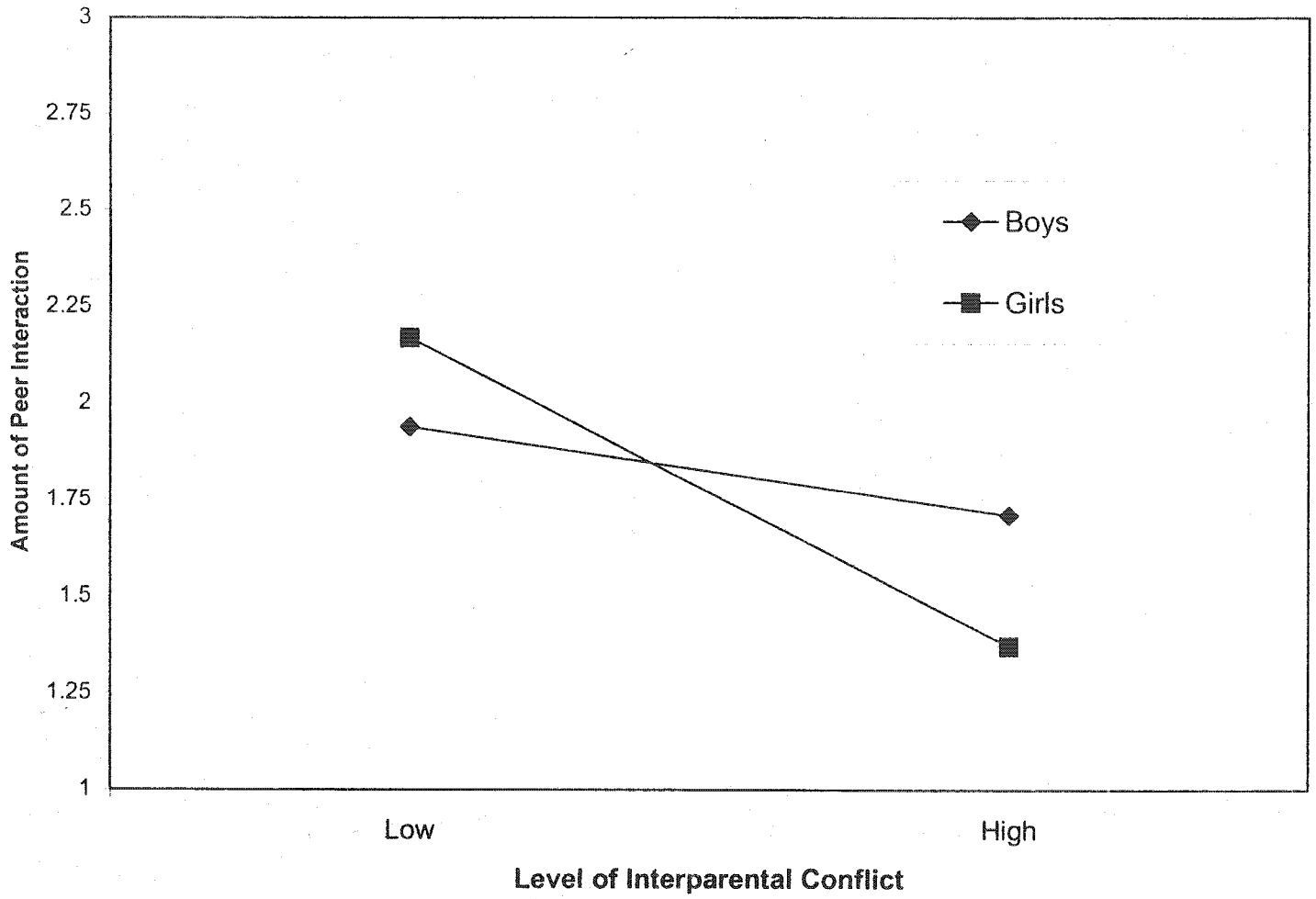


Figure 3. Prediction of Quality of Peer Interactions by IPC and Effortful Control

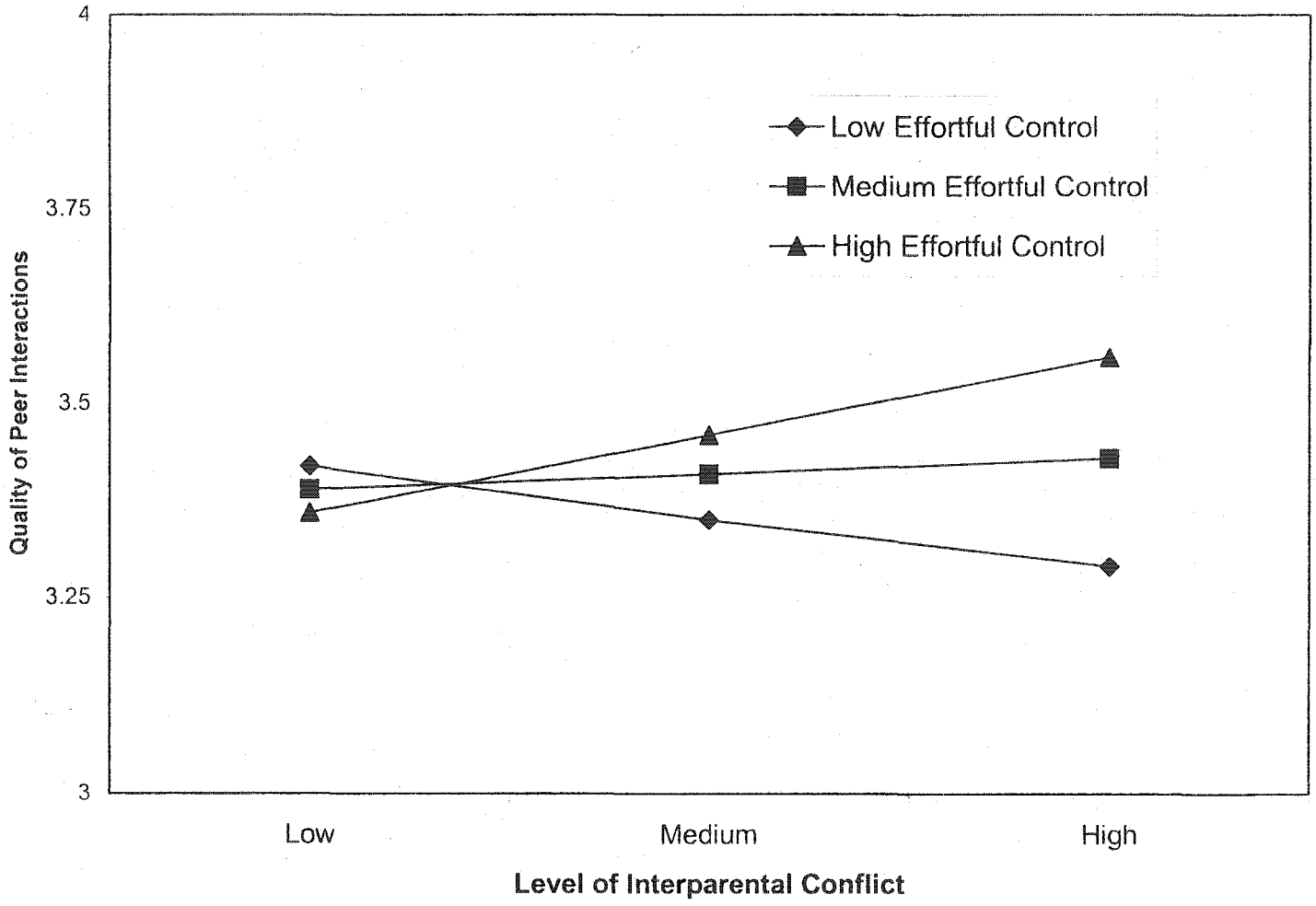


Figure 4. Prediction of Quality of Peer Interactions by IPC and Positive Emotionality

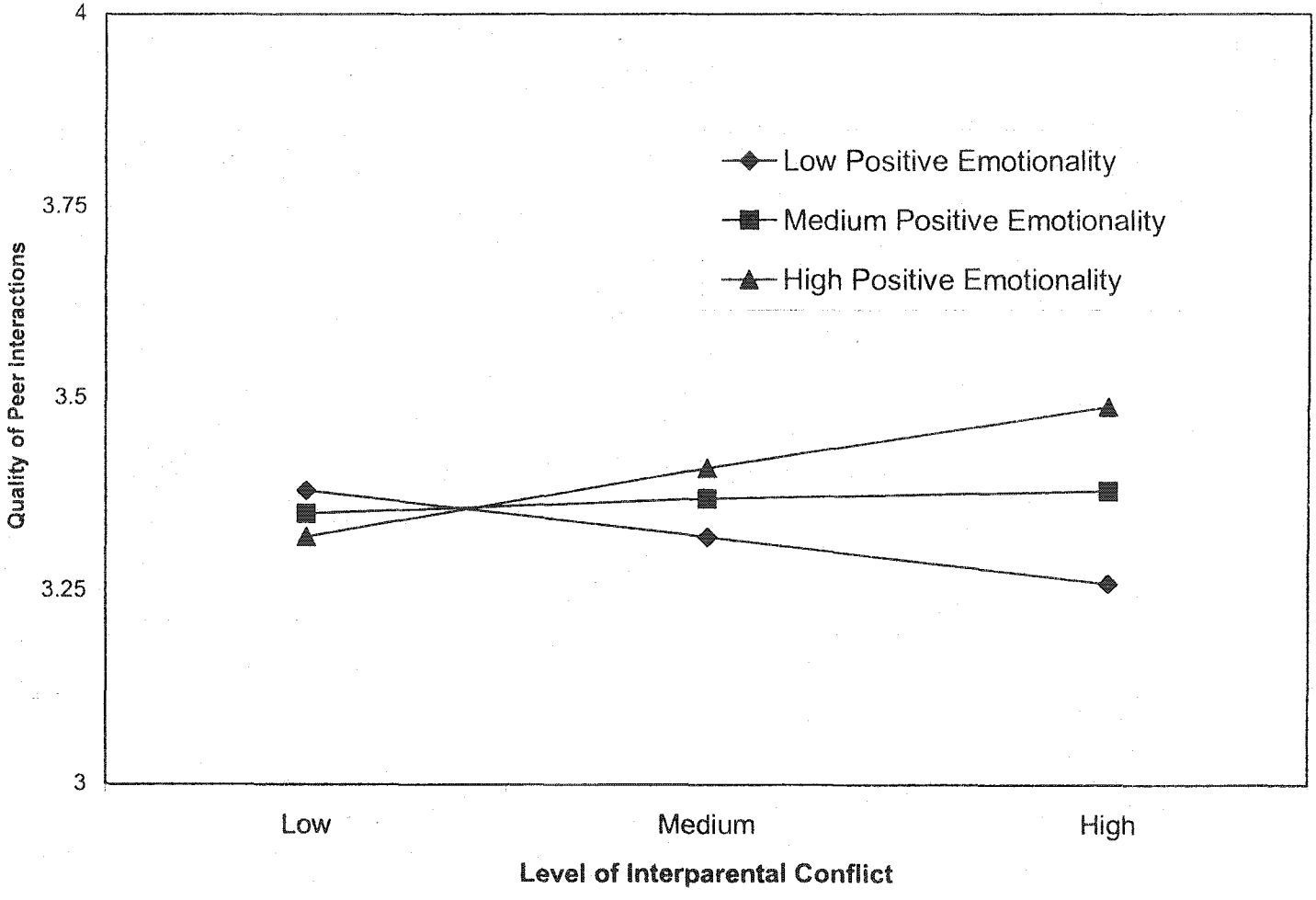


Figure 5. Prediction of Negative Affect with Peers by IPC and Effortful Control

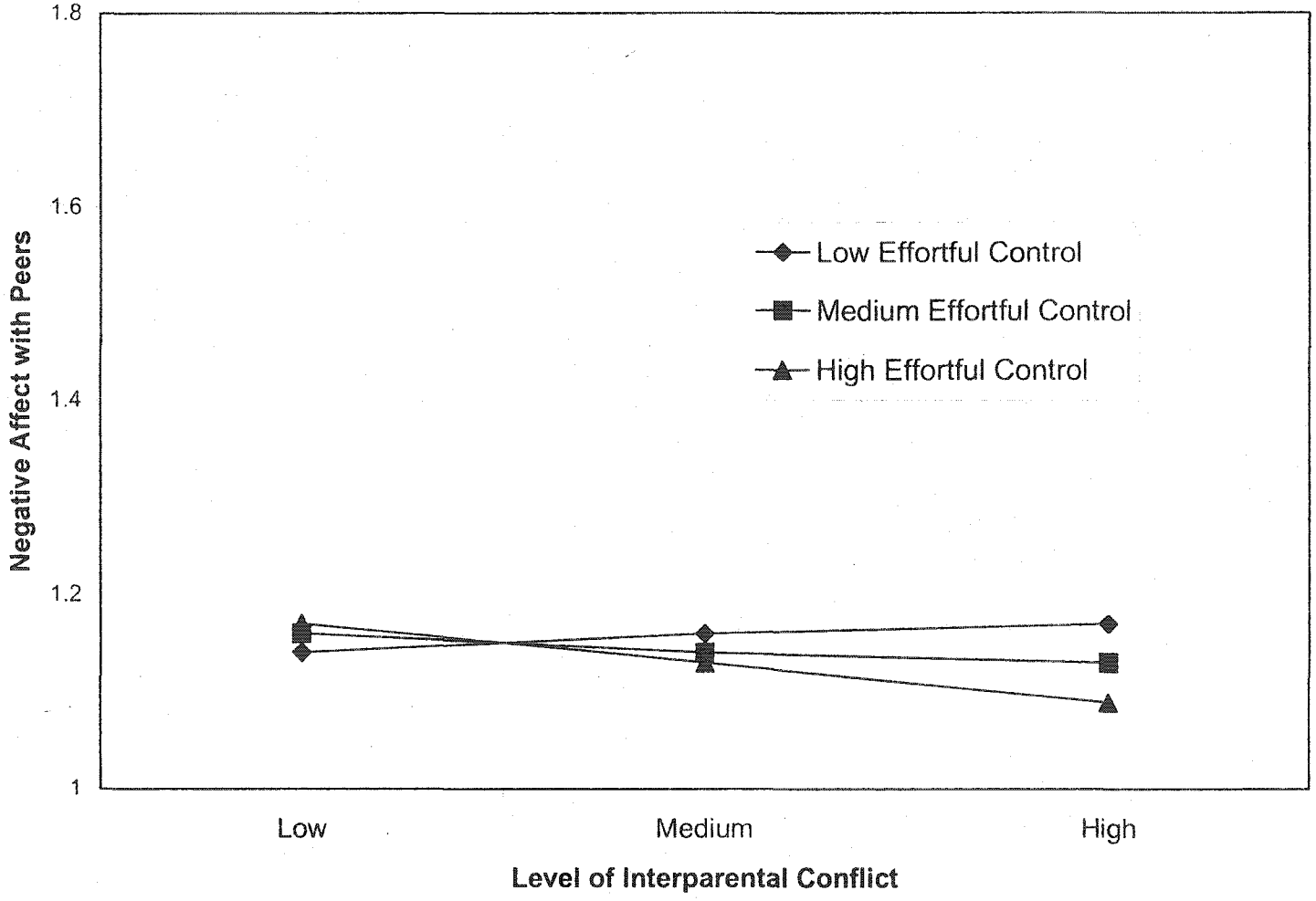
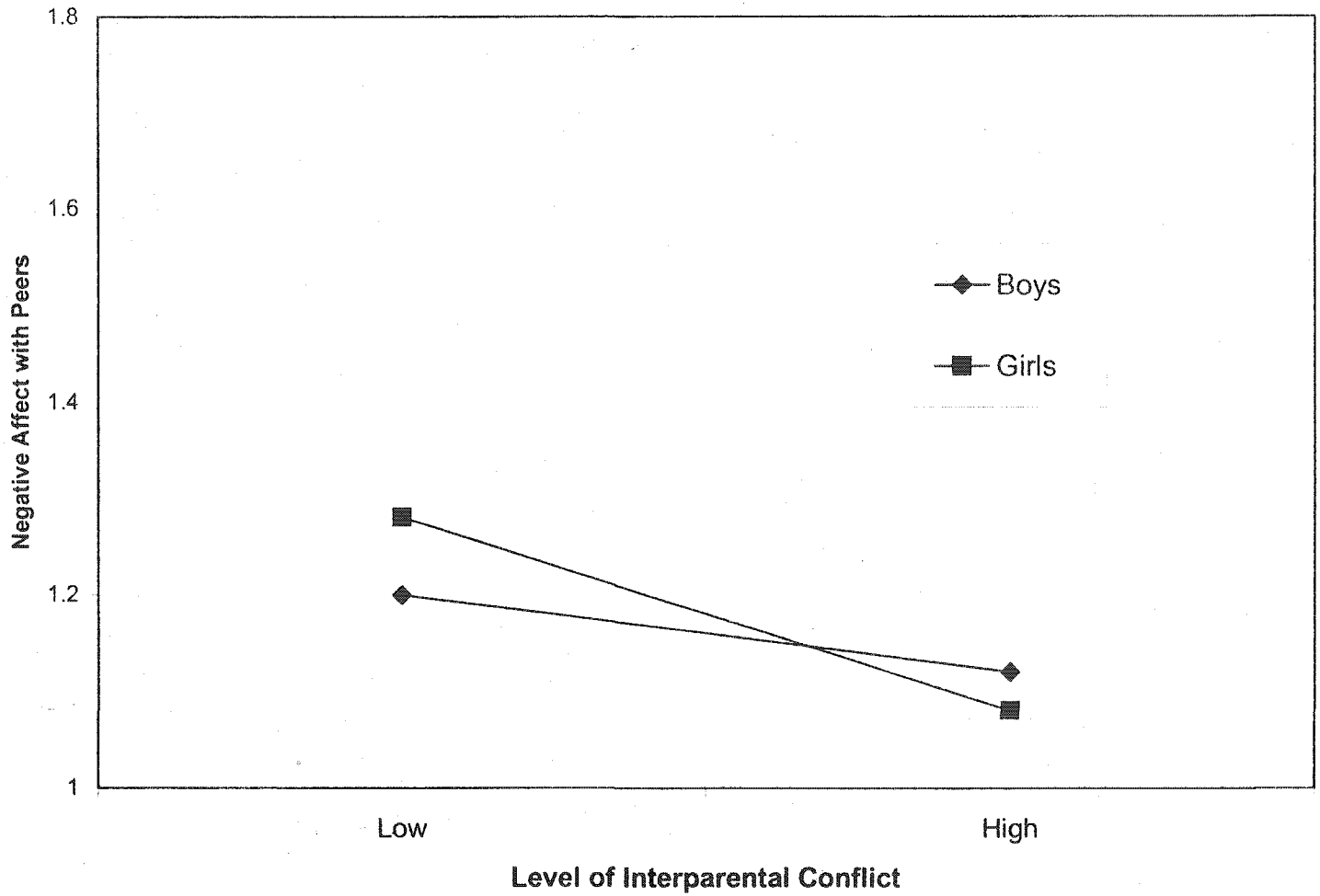


Figure 6. Prediction of Negative Affect with Peers by IPC and Gender



Appendix A

Couple Conflicts and Problem-Solving Strategies

All couples have conflicts from time to time, and there are many ways that partners can try to handle disagreements when they arise. Please tell us about your **DURING THE LAST YEAR**.

1. How often do you and your partner have ***minor*** disagreements (for example, "spats", getting on each other's nerves)? Please check mark next to the answer that corresponds to what is true for you.

   _____ once a year or less
   _____ every 4 – 6 months
   _____ every 2 – 3 months
   _____ once or twice a month
   _____ once or twice a week
   _____ just about every day

2. How often do you and your partner have ***major*** disagreements (for example, big fights, "blow-ups")? Please check mark next to the answer that corresponds to what is true for you.

   _____ once a year or less
   _____ every 4 – 6 months
   _____ every 2 – 3 months
   _____ once or twice a month
   _____ once or twice a week
   _____ just about every day

What strategies do you and your partner use when you have disagreements with each other? Using the four-point scale below, circle how often **YOU** use each strategy on the left side and how often **YOUR PARTNER** uses each strategy on the right side. Remember the first response that comes to mind is probably the best one.

0	1	2	3
Never	Rarely	Sometimes	Often

Me					**My Partner**			
Never	Rarely	Sometimes	Often		Never	Rarely	Sometimes	Often
0	1	2	3	1. Insist on own point of view.	0	1	2	3
0	1	2	3	2. Try to convince partner of own way of thinking.	0	1	2	3
0	1	2	3	3. Raise voice, yell, shout.	0	1	2	3
0	1	2	3	4. Interrupt/don't listen to partner.	0	1	2	3
0	1	2	3	5. Be sarcastic.	0	1	2	3
0	1	2	3	6. Make accusations.	0	1	2	3
0	1	2	3	7. Name-calling, cursing, insulting.	0	1	2	3
0	1	2	3	8. Say or do something to hurt partner's feelings.	0	1	2	3
0	1	2	3	9. Become angry with child when really angry with partner.	0	1	2	3
0	1	2	3	10. Argue in front of the child(ren).	0	1	2	3
0	1	2	3	11. Involve the child(ren) in our argument.	0	1	2	3
0	1	2	3	12. Argue when the child(ren) might be able to overhear.	0	1	2	3
0	1	2	3	13. Confide in child(ren) about problems with partner.	0	1	2	3

Appendix B

Couple Relations

The following items pertain to your interactions with your partner in front of your child(ren). If you and your spouse are separated or divorced, please respond to these questions based on the times that your child has seen you together. Please answer all of the following questions to the best of your ability.

1. It is difficult in these days of tight budgets to confine financial discussions to specific times and places. How often would you say you and your partner argue over money matters in front of this child?

   Never _____ Rarely _____ Occasionally _____ Often _____ Very Often _____

2. Children often go to one parent for money or permission to do something after having been refused by the other parent. How often would you say this child approaches you or your partner in this manner with rewarding results?

   Never _____ Rarely _____ Occasionally _____ Often _____ Very Often _____

3. Mothers and fathers often disagree on the subject of discipline. How often do you and your partner argue over disciplinary problems in this child's presence?

   Never _____ Rarely _____ Occasionally _____ Often _____ Very Often _____

4. How often has this child heard you and your partner argue about the wife's role in the family? (Housewife, working wife, etc.)

   Never _____ Rarely _____ Occasionally _____ Often _____ Very Often _____

5. How often does your partner complain to you about your personal habit (drinking, nagging, sloppiness, etc.) in front of this child?

   Never _____ Rarely _____ Occasionally _____ Often _____ Very Often _____

6. How often do you complain to your partner about his/her personal habits in front of this child?

   Never _____ Rarely _____ Occasionally _____ Often _____ Very Often _____

7. In every normal romantic relationship there are arguments. What percentage of the arguments between you and your partner would you say take place in front of this child?

   Never _____ Rarely _____ Occasionally _____ Often _____ Very Often _____

8. To varying degrees, we all experience almost irresistible impulses in times of great stress. How often is there physical expression of hostility between you and your partner in front of this child?

   Never _____ Rarely _____ Occasionally _____ Often _____ Very Often _____

9. How often do you and/or your partner display verbal hostility in front of this child?

   Never _____ Rarely _____ Occasionally _____ Often _____ Very Often _____

10. How often do you and your partner display affection for each other in front of this child?

    Never _____ Rarely _____ Occasionally _____ Often _____ Very Often _____

Appendix C

Children's Behavior Questionnaire for Teachers

On the following pages, you will see a set of statements that describe children's reactions to a number of situations. We would like you to tell us what the reaction of the child is likely to be in those situations. There are of course no "correct" ways of reacting; children differ widely in their reactions, and it is these differences we are trying to learn about. Please read each statement and decide whether it is a "true" or "untrue" for this child within the past six months. Use the following scale to indicate how well a statement describes this child:

Circle #	If the statement is:
1	extremely untrue of this child
2	quite untrue of this child
3	slightly untrue of this child
4	neither true nor false for this child
5	slightly true of this child
6	quite true of this child
7	extremely true of this child

If you cannot answer one of the items because you have never seen the child in that situation, for example, if the statement is about the child's reaction to your singing and you have never sung to this child, then circle NA (not applicable). Please try to answer each item and only use NA if you absolutely cannot answer the item.

PLEASE BE SURE TO CIRCLE A NUMBER or NA FOR EVERY ITEM

1 extremely untrue	2 quite untrue	3 slightly untrue	4 neither true nor false	5 slightly true	6 quite true	7 extremely true

This child:

1. Gets angry when told he/she has to go to bed.	1	2	3	4	5	6	7	NA
2. Can lower his/her voice when asked to do so.	1	2	3	4	5	6	7	NA
3. Is not very bothered by pain.	1	2	3	4	5	6	7	NA
4. Notices the smoothness or roughness of objects he/she touches.	1	2	3	4	5	6	7	NA

1 extremely untrue	2 quite untrue	3 slightly untrue	4 neither true nor false	5 slightly true	6 quite true	7 extremely true

This child:

5. Laughs a lot at jokes and silly happenings.	1	2	3	4	5	6	7	NA
6. Rarely enjoys just being talked to.	1	2	3	4	5	6	7	NA
7. Has a hard time setting down for a nap.	1	2	3	4	5	6	7	NA
8. Is not afraid of large dogs and/or other animals.	1	2	3	4	5	6	7	NA
9. When picking up toys or other jobs, usually keeps at the task until it's done.	1	2	3	4	5	6	7	NA
10. Cries sadly when a favorite toy gets lost or broken.	1	2	3	4	5	6	7	NA
11. Rarely gets irritated when he/she makes a mistake.	1	2	3	4	5	6	7	NA
12. Is good at games like "Simon Says," "Mother, May I?" and "Red Light, Green Light."	1	2	3	4	5	6	7	NA
13. Becomes quite uncomfortable when cold and/or wet.	1	2	3	4	5	6	7	NA
14. Calms down quickly following an exciting event.	1	2	3	4	5	6	7	NA
15. Usually doesn't comment on changes in teachers' appearance.	1	2	3	4	5	6	7	NA
16. Notices it when teachers are wearing new clothing.	1	2	3	4	5	6	7	NA
17. Has a hard time following instructions.	1	2	3	4	5	6	7	NA
18. Has temper tantrums when he/she doesn't get what he/she wants.	1	2	3	4	5	6	7	NA
19. Enjoys just sitting quietly in the sunshine.	1	2	3	4	5	6	7	NA
20. When practicing an activity, has a hard time keeping his/her mind on it.	1	2	3	4	5	6	7	NA

1 extremely untrue	2 quite untrue	3 slightly untrue	4 neither true nor false	5 slightly true	6 quite true	7 extremely true

This child:

21. Tends to feel "down" at the end of an exciting day.	1	2	3	4	5	6	7	NA
22. Is afraid of burglars or the "boogie man."	1	2	3	4	5	6	7	NA
23. Can be "cheered up" by talking about something he/she is interested in.	1	2	3	4	5	6	7	NA
24. Enjoys funny stories, but usually doesn't laugh at them.	1	2	3	4	5	6	7	NA
25. Tends to become sad if the family's plans don't work out.	1	2	3	4	5	6	7	NA
26. Will move from one task to another without completing any of them.	1	2	3	4	5	6	7	NA
27. Is afraid of loud noises.	1	2	3	4	5	6	7	NA
28. Seems to listen to even quite sounds.	1	2	3	4	5	6	7	NA
29. Has a hard time settling down after an exciting activity.	1	2	3	4	5	6	7	NA
30. Enjoys taking warm baths.	1	2	3	4	5	6	7	NA
31. Seems to feel depressed when unable to accomplish some task.	1	2	3	4	5	6	7	NA
32. Smiles and laughs during play with teachers.	1	2	3	4	5	6	7	NA
33. Doesn't worry about injections by the doctor.	1	2	3	4	5	6	7	NA
34. Is quite upset by a little cut or bruise.	1	2	3	4	5	6	7	NA
35. Gets quite frustrated when prevented from doing something he/she wants to do.	1	2	3	4	5	6	7	NA
36. Prepares for trips and outings by planning things he/she will need.	1	2	3	4	5	6	7	NA

1 extremely untrue	2 quite untrue	3 slightly untrue	4 neither true nor false	5 slightly true	6 quite true	7 extremely true

This child:

37. Becomes upset when loved relatives or friends are getting ready to leave following a visit.	1	2	3	4	5	6	7	NA
38. Comments when a teacher has changed his/her appearance.	1	2	3	4	5	6	7	NA
39. Doesn't enjoy being read to very much.	1	2	3	4	5	6	7	NA
40. When angry about something, he/she tends to stay upset for ten minutes or longer.	1	2	3	4	5	6	7	NA
41. Is not afraid of the dark.	1	2	3	4	5	6	7	NA
42. Does not usually become tearful when tired.	1	2	3	4	5	6	7	NA
43. Gets mad when even mildly criticized.	1	2	3	4	5	6	7	NA
44. Can wait before entering into new activities if he/she is asked to.	1	2	3	4	5	6	7	NA
45. Enjoys "snuggling up" next to a teacher.	1	2	3	4	5	6	7	NA
46. Gets angry when he/she can't find something he/she wants to play with.	1	2	3	4	5	6	7	NA
47. Is afraid of fire.	1	2	3	4	5	6	7	NA
48. His/her feelings are easily hurt by what teachers say.	1	2	3	4	5	6	7	NA
49. Usually has a serious expression, even during play.	1	2	3	4	5	6	7	NA
50. Doesn't usually comment on people's facial features, such as size of nose or mouth.	1	2	3	4	5	6	7	NA
51. Seems to forget a bump or scrape after a couple of minutes.	1	2	3	4	5	6	7	NA
52. Doesn't care much for quiet games.	1	2	3	4	5	6	7	NA

1 extremely untrue	2 quite untrue	3 slightly untrue	4 neither true nor false	5 slightly true	6 quite true	7 extremely true

This child:

53. Is bothered by light or color that is too bright.	1	2	3	4	5	6	7	NA
54. Is very frightened by nightmares.	1	2	3	4	5	6	7	NA
55. Changes from being upset to feeling much better within a few minutes.	1	2	3	4	5	6	7	NA
56. Has difficulty waiting in line for something.	1	2	3	4	5	6	7	NA
57. Becomes sad when told to do something he/she does not want to do.	1	2	3	4	5	6	7	NA
58. Finds rough materials uncomfortable, such as wool against his/her skin.	1	2	3	4	5	6	7	NA
59. Is quickly aware of some new item in the living room.	1	2	3	4	5	6	7	NA
60. Hardly ever laughs out loud during play with other children.	1	2	3	4	5	6	7	NA
61. Is not very upset at minor cuts or bruises.	1	2	3	4	5	6	7	NA
62. Falls asleep within ten minutes of going to bed at night.	1	2	3	4	5	6	7	NA
63. Usually comments if someone has an unusual voice.	1	2	3	4	5	6	7	NA
64. Has trouble sitting still when he/she is told to.	1	2	3	4	5	6	7	NA
65. Rarely cries when he/she hears a sad story.	1	2	3	4	5	6	7	NA
66. Sometimes smiles or giggles when playing by him/herself.	1	2	3	4	5	6	7	NA
67. Isn't interested in watching quiet TV shows, such as "Mister Rodgers."	1	2	3	4	5	6	7	NA
68. Rarely becomes upset when watching a sad event in a TV show.	1	2	3	4	5	6	7	NA

1 extremely untrue	2 quite untrue	3 slightly untrue	4 neither true nor false	5 slightly true	6 quite true	7 extremely true

This child:

69. Enjoys just being talked to.	1	2	3	4	5	6	7	NA
70. Is bothered by bathwater that is too hot or too cold.	1	2	3	4	5	6	7	NA
71. Is able to resist laughing or smiling when it isn't appropriate.	1	2	3	4	5	6	7	NA
72. If upset, cheers up quickly when he/she thinks about something else.	1	2	3	4	5	6	7	NA
73. Rarely gets upset when told he/she has to go to bed.	1	2	3	4	5	6	7	NA
74. Rarely smiles and laughs when playing with pets.	1	2	3	4	5	6	7	NA
75. Does not seem to notice teachers' facial expressions.	1	2	3	4	5	6	7	NA
76. When drawing or coloring in a book, shows strong concentration.	1	2	3	4	5	6	7	NA
77. Sometimes appears downcast for no reason.	1	2	3	4	5	6	7	NA
78. Becomes easily frustrated when tired.	1	2	3	4	5	6	7	NA
79. Is afraid of the dark.	1	2	3	4	5	6	7	NA
80. Is likely to cry when even a little bit hurt.	1	2	3	4	5	6	7	NA
81. Enjoys looking at picture books.	1	2	3	4	5	6	7	NA
82. Is easy to soothe when he/she is upset.	1	2	3	4	5	6	7	NA
83. Doesn't often giggle or act "silly."	1	2	3	4	5	6	7	NA
84. Is good at following instructions.	1	2	3	4	5	6	7	NA
85. Is rarely frightened by "monsters" seen on TV or at movies.	1	2	3	4	5	6	7	NA

1 extremely untrue	2 quite untrue	3 slightly untrue	4 neither true nor false	5 slightly true	6 quite true	7 extremely true

This child:

86. Gets irritable about having to eat food he/she doesn't like.	1	2	3	4	5	6	7	NA
87. Becomes distressed when hair is combed.	1	2	3	4	5	6	7	NA
88. Doesn't usually react to different textures of food.	1	2	3	4	5	6	7	NA
89. When building or putting something together, becomes very involved in what he/she is doing, and works for long periods.	1	2	3	4	5	6	7	NA
90. Likes being sung to.	1	2	3	4	5	6	7	NA
91. Approaches places he/she has been told are dangerous slowly and cautiously.	1	2	3	4	5	6	7	NA
92. Rarely becomes discouraged when he/she has trouble making something work.	1	2	3	4	5	6	7	NA
93. Is very difficult to soothe when he/she has become upset.	1	2	3	4	5	6	7	NA
94. Likes the sound of words, as in nursery rhymes.	1	2	3	4	5	6	7	NA
95. Smiles a lot at people he/she likes.	1	2	3	4	5	6	7	NA
96. Notices even little specks of dirt on objects.	1	2	3	4	5	6	7	NA
97. Rarely protests when another child takes his/her toy away.	1	2	3	4	5	6	7	NA
98. Cries when given an injection.	1	2	3	4	5	6	7	NA
99. Has difficulty leaving a project he/she has begun.	1	2	3	4	5	6	7	NA
100. Is not afraid of heights.	1	2	3	4	5	6	7	NA
101. Is not very careful and cautious in crossing streets.	1	2	3	4	5	6	7	NA

1 extremely untrue	2 quite untrue	3 slightly untrue	4 neither true nor false	5 slightly true	6 quite true	7 extremely true

This child:

102. Often laughs out loud in play with other children.	1	2	3	4	5	6	7	NA
103. Enjoys gentle rhythmic activities, such as rocking or swaying.	1	2	3	4	5	6	7	NA
104. Rarely laughs aloud while watching TV or movie comedies.	1	2	3	4	5	6	7	NA
105. Has a hard time going back to sleep after waking in the night.	1	2	3	4	5	6	7	NA
106. Can easily stop an activity when he/she is told "no."	1	2	3	4	5	6	7	NA
107. Doesn't usually notice odors, such as perfume, smoke, cooking, etc.	1	2	3	4	5	6	7	NA
108. Is easily distracted when listening to a story.	1	2	3	4	5	6	7	NA
109. Easily gets irritated when he/she has trouble with some task (e.g., building, drawing, dressing).	1	2	3	4	5	6	7	NA
110. Enjoys sitting on teacher's lap.	1	2	3	4	5	6	7	NA
111. Is rarely afraid of sleeping alone in a room.	1	2	3	4	5	6	7	NA
112. Rarely cries for more than a couple of minutes at a time.	1	2	3	4	5	6	7	NA
113. Is bothered by loud or scratchy sounds.	1	2	3	4	5	6	7	NA
114. Smiles at friendly strangers.	1	2	3	4	5	6	7	NA
115. Gets angry when called in from play before he/she is ready to quit.	1	2	3	4	5	6	7	NA
116. Is usually able to resist temptation when told he/she is not supposed to do something.	1	2	3	4	5	6	7	NA

1 extremely untrue	2 quite untrue	3 slightly untrue	4 neither true nor false	5 slightly true	6 quite true	7 extremely true

This child:

117. Sometimes becomes absorbed in a picture book and looks at it for a long time.	1	2	3	4	5	6	7	NA
118. Gets nervous about going to the dentist.	1	2	3	4	5	6	7	NA
119. Hardly ever complains when ill with a cold.	1	2	3	4	5	6	7	NA
120. Gets mad when provoked by other children.	1	2	3	4	5	6	7	NA
121. Smiles when looking at a picture book.	1	2	3	4	5	6	7	NA
122. Has a hard time concentrating on an activity when there are distracting noises.	1	2	3	4	5	6	7	NA

Appendix D

Revised Dimensions of Temperament Survey for Teachers

Listed below are some statements about how children may behave. On the line to the left of each statement write an A if the statement is usually false of this child, write a B if the statement is more false than true of this child, write a C if the statement is more true than false of this child, or write a D if the statement is usually true of this child. There are no "right" or "wrong" answers because all children behave in different ways. All you have to do is answer what is true or false for this child.

Please keep these four things in mind as you answer:

- Give only answers that are true or false for this child. It is best to say what you really think.
- Don't spend too much time thinking over each question. Give the first, natural answer as it comes to you.
- Answer every question one way or another. Don't skip any.
- Remember, A = usually FALSE
  B = more FALSE than true
  C = more TRUE than false
  D = usually TRUE

1. _____ This child laughs and smiles at a lot of things.
2. _____ This child does not laugh or smile at many things.
3. _____ This child smiles often.
4. _____ I do not find this child laughing often.
5. _____ This child's mood is generally cheerful.
6. _____ This child laughs several times a day.
7. _____ Generally, this child is happy.