

## **Chapter Four: Latent Profiles of Black Fathers' Involvement and Young Children's Social-Emotional Adjustment**

### **Introduction**

Internalizing (Zahn-Waxler, Klimes-Dougan, & Slattery, 2000) and externalizing problems (Keenan & Wakschlag, 2004) are commonly observed early childhood difficulties. Many children outgrow problem behavior, such as anxiety, withdrawing from others in social settings, aggression, or showing little remorse after wrongdoing (NICHD Early Child Care Research Network, 2004). Yet other children who exhibit early problem behavior may be on a trajectory toward further problems later in life, such as continued psychopathology, academic problems, and social maladjustment (Olson et al., 2011).

However, parenting has been well documented as a socialization influence that helps children develop prosocially (Bornstein, 2005). Fathers in particular may have a distinctive role in shaping children's social development (Leidy, Schofield, & Parke, 2013; McWayne et al., 2013; Paquette, 2004). For example, paternal parenting quality and involvement has been linked to young children's inhibition (Belsky, Hsieh, & Crnic, 1998), peer popularity (Leidy et al., 2013), and emotion regulation (Hastings et al., 2008), to name a few.

Yet qualities of the child may affect how (or whether) fathers' involvement leads to positive child development. Scholars have posited that some individuals may be more affected by their environment than others, i.e., differential susceptibility theory (e.g., Spinrad et al., 2007). A growing body of scholarship documents the heightened sensitivity of children with difficult temperament to parenting by mothers, but there is very limited work with fathers.

Given the implications of children's social-emotional problems for multiple developmental domains (Cole & Hall, 2008), as well as theoretical and empirical evidence to suggest fathers' unique role in developing their children's social competence (Leidy et al., 2013; Paquette, 2004), the current study sought to better understand how African American fathers may prevent their young children's development of problems. Drawing from the expanded model of paternal influences (Cabrera et al., 2014), I examined whether different patterns of father involvement were associated with later children's social-emotional development along direct and indirect pathways. Specifically, I tested whether fathering profiles were related to multiple facets of children's adjustment (i.e., anxiety, withdrawal, aggression, lack of guilt, attention problems, and social problems), in addition to whether children's early temperament moderated the influence of paternal involvement.

### **Expanded Model of Fathering**

The current study considered the expanded model of fathering (Cabrera et al., 2014) as a framework to understand paternal influences on child development. The expanded model heuristically describes both the antecedents and consequences of father involvement, embedded within a dynamic systems framework of reciprocal and

interactive effects. Thus, the expanded model depicts the complexity of fathers' influences by acknowledging direct effects as well as how fathers' parenting behaviors may interact with other contextual factors in predicting children's outcomes. The current study draws from the part of the model predicting children's development. Figure 2 depicts the conceptual model for the current study that incorporates the specific fathers' parenting behaviors, child characteristics, and child development outcomes of interest.

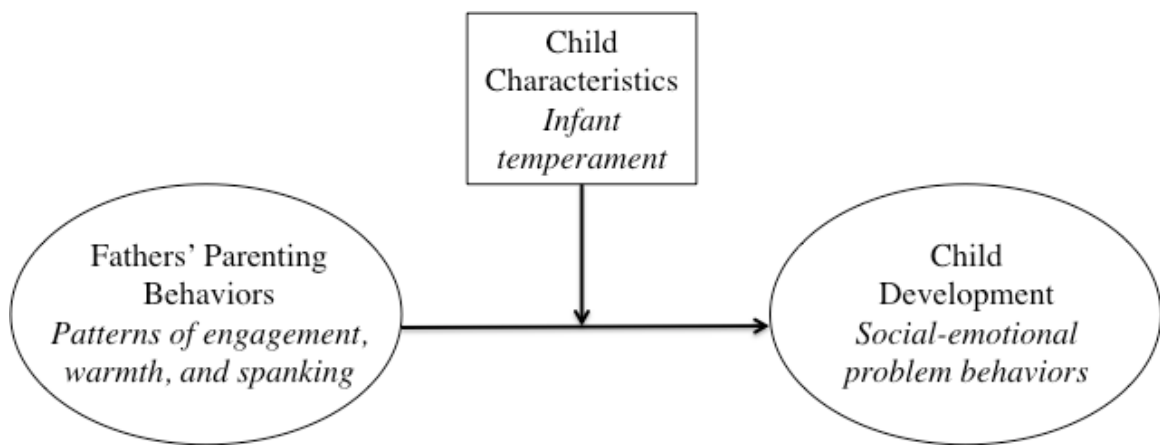


Figure 2 Conceptual model

## **Fathering and Young Children's Social-Emotional Development**

### ***Associations between fathering and children's social-emotional development***

Why might fathers' involvement affect children's social and emotional development? Much existing fatherhood research has assumed fathers should have an influence on their children's development, without providing a theoretical rationale (Pleck, 2007). However, Pleck (2010) postulated in his parental capital model that fathers promote the development of children through proximal process, a concept introduced by

Bronfenbrenner (2010). Proximal processes are those recurring interactions between individuals that promote developmental change through exchanges of increasing complexity. When fathers spend time with their children in positive engagement activities, parenting in a warm and sensitive manner that is attentive to the child's needs while also exerting appropriate control, these reciprocal processes create a context through which positive child development may occur.

The growing literature on paternal influences suggests that fathers do matter, with small but substantive effects on their children's outcomes. Yet the current study is the first to examine the influence of father involvement using person-oriented patterns of fathering, rather than examining individual parenting behaviors separately. One study of father profiles, for the purpose of validation analyses, reported the association between fathers' discipline and children's externalizing behaviors (Lee et al., 2011). In this study, four patterns of paternal disciplinary styles emerged, depicting groups of fathers who varied in the types of strategies they used to discipline their child. The group of fathers highest in physical and psychological aggression had children who were rated as the most aggressive.

Given the current study's focus on the paternal involvement dimensions of engagement, warmth, and control, how have these particular aspects of fathering been related to children's social-emotional development? Regarding paternal engagement, or the amount of time fathers spend with their children in interactive activities, a recent meta-analysis by McWayne and colleagues (2013) revealed a significant negative association with young children's problem behaviors. The more fathers spent time with

their children, the less externalizing problems of their children (mean effect size=-.23,  $p=.03$ ).

Fathers' engagement in cognitive stimulation and play may be particularly beneficial for children. A father who sings songs, reads books, and tells stories to his child may be promoting social and emotional competence through the opportunity to practice regulatory behaviors such as paying attention, delaying gratification, and managing negative emotions (Baker, 2013; Leavell et al., 2012; Mitchell & Cabrera, 2009). These learning interactions scaffolded by parents offer opportunities for children to develop and perform critical social tasks such as properly responding to parental cues and instructions, focusing while parents explain new concepts, and regulating their own emotional expression. This postulation has been supported empirically, including in research with Black families. African American fathers' involvement in literacy activities was associated with better emotion regulation, sustained attention, and social competence in early childhood, both concurrently (Downer & Mendez, 2005; Mitchell & Cabrera, 2009) and prospectively (Baker, 2013).

With regard to father-child play, Paquette (2004) theorizes that rough-and-tumble play (which is the most common form of play with fathers and young children) may help children develop social competencies. Specifically, such boisterous and unpredictable play may support children's ability to recognize and modulate their own and others' emotions. In the context of highly arousing physical play, fathers teach their children to regulate their emotions by adjusting the intensity of play according to what their child can handle. Aligned with theoretical speculations, father-child play has been consistently related to children's positive social outcomes, such as popularity with peers and less

aggression (Leidy et al., 2013). In sum, fathering patterns that emphasize cognitive engagement and play may have particularly positive social-emotional benefits for young children.

In addition to the quantity of time fathers spend with their child, the quality of those interactions plays a role in children's development as well. Baumrind's (1967) well-known conceptualization of parenting styles integrates dimensions of parental warmth and responsiveness with demandingness and control. Generally, authoritative fathers (i.e., nurturing yet firm) tend to have children with fewer internalizing and externalizing symptomology (Marsiglio, Amato, Day, & Lamb, 2000). At the same time, there may be important distinctions based on culture and context as to which parenting styles are most beneficial (e.g., Baumrind, 1972; Deater-Deckard & Dodge, 1997; Steinberg et al., 1992).

That the quality of fathers' parenting is related to children's social development was supported by a meta-analysis of paternal involvement and children's early learning (McWayne et al., 2013). Positive parenting by fathers, which reflected responsive, supportive, and stimulating behaviors, were linked to children's prosocial skills (mean effect size=.19,  $p<.001$ ). Conversely, negative parenting, including behaviors typically considered detrimental to children's development (e.g., harsh and punitive styles of parenting), were associated with more externalizing behavior problems among children (mean effect size=.30,  $p<.001$ ).

Yet there have been counterintuitive findings of paternal influences as well. The same meta-analysis on father effects during early childhood (McWayne et al., 2013) revealed that the more fathers interacted with their children, the more internalizing

problems among their children (mean effect size=.22,  $p=.05$ ). The authors speculated that the unexpected positive association between father engagement and children's internalizing might have been an artifact of research design. Most of the father involvement studies within the early childhood period have been cross-sectional ((1967), including those of African American families (Roopnarine & Hossain, 2013). That is, fathers may be more engaged with children when they seem more anxious, withdrawn, or depressed, suggesting that certain child characteristics may elicit more parental involvement. The current study builds on this work by examining associations between fathering and children's social-emotional development prospectively, thus conceptually providing support for the direction of father effects.

Another reason that paternal involvement may not always lead to children's wellbeing could be due to the context of father-child interactions. For instance, if fathers perceive that they are forced to engage with their children (for whatever reason), they may act hostile or bitter towards their children, which could lead to their children's problem behaviors (e.g., Amato & Rivera, 1999; Downer et al., 2008; McWayne et al., 2013; Roopnarine & Hossain, 2013). Also, other characteristics of the interaction context could affect whether fathering influences children's social-emotional adjustment. As one example, Flanders and colleagues (2010) documented that only when fathers were less dominant during play did that engagement relate to children's emotion regulation and aggression. In other words, both the amount of time fathers spend with their children and the quality of those interactions are important for whether and how fathers influence their children's outcomes. Thus, the current study integrated both quantity (paternal

engagement) and quality (warmth, control) dimensions of fathering, making this the first study to examine how *patterns* of parenting related to children's development.

Also, many studies of fatherhood still lack racial/ethnic diversity, particularly within the early childhood period (McWayne et al., 2013). Of the handful of within-group studies of African American families, much of the research included small samples of predominately low-income populations (Mitchell & Cabrera, 2009). Also, in the literature on Black fathers, there is less work on young children compared to older children and adolescents (Roopnarine & Hossain, 2013). The present study builds upon the limited but growing fatherhood literature by studying how parenting related to children's adjustment among a large, representative sample of African American fathers. Furthermore, the current study takes into consideration mothers' involvement with the child in order to determine the unique influence of fathers, which is missing in many previous studies (Amato, 1998; Downer et al., 2008; Pleck, 2012).

***Does fathers' influence on children's social-emotional outcomes vary by children's early temperament?***

Scholars have called for going beyond how fathers affect their children's development to examine for whom are father effects amplified or attenuated. Consistent with the expanded model of paternal influences (Cabrera et al., 2014), examining how paternal influences are moderated by other factors to impact children's development represents an important goal for future fathering research.

Child temperament represents one of the most common child characteristics examined in parenting scholarship. Temperamental difficulty refers to infants' high levels of fussiness, irritability, and difficulty in soothing (Rothbart & Bates, 2007). It may be



especially important to examine early emotional reactivity in the present study because the child outcomes examined were aspects of social-emotional adjustment. Conceptually, emotional reactivity undergirds the development of competence in this domain (Downer et al., 2008). It may be that children's level of emotionality in particular may affect whether they reap the developmental benefits of their fathers' involvement.

Some theory and research on early temperament considers children's temperament as a risk factor for internalizing and externalizing symptomology (e.g., Rothbart, 2007). An alternative lens through which to view children's early temperament is the differential susceptibility hypothesis, which posits that some characteristics may make children more sensitive to their context (e.g., Denham et al., 2003; Eisenberg et al., 1995). In this case, children with difficult temperaments may be influenced by parenting to a greater degree than children with easier temperaments. This means that when fathers are more engaged, warm, and sensitive, children with early difficult temperament would outperform less emotional children. In sum, children's temperament could be a sensitivity factor that magnifies positive adjustment in healthy environments, rather than a risk factor associated with only negative outcomes.

Differential susceptibility is distinct from articulating that fathers are more or less likely to be involved with temperamentally difficult children, or that such children evoke particular parenting behaviors, as in reciprocal socialization work. Findings are mixed regarding whether children's temperament is associated with differential involvement from fathers. Some studies report that fathers spend more time with (Belsky, Bakermans-Kranenburg, & van IJzendoorn, 2007; Ellis et al., 2011) or develop closer attachments with (Volling & Belsky, 1992) children who have negative temperament, whereas other

studies fail to find significant associations between fathers' quality of parenting and child early negativity (Downer & Mendez, 2005).

Despite calls for investigation of more sophisticated processes of fathering for decades (Belsky et al., 1998), there has been a lack of empirical attention as to whether father involvement relates to child development differently for particular groups of children (Amato, 1998). With regard to children's early emotionality, most of the Parenting x Child Temperament work has been done with mothers, matching the predominant focus on mothers in the general parenting literature. Differential susceptibility has been largely supported among mothers with negatively emotional children (Downer et al., 2008; McWayne et al., 2013; Roopnarine & Hossain, 2013). When mothers are more sensitive, supportive, and affectively positive, children with difficult temperaments have shown better social-emotional development compared to less reactive children, such as more social competence (e.g., Kim & Kochanska, 2012; Mesman et al., 2009; Pluess & Belsky, 2010; Stright, Gallagher, & Kelley, 2008) and less externalizing (Pluess & Belsky, 2010).

A handful of studies have examined whether the association between *fathers'* parenting and children's adjustment varies according to early temperament, and the findings are inconclusive. Of the extremely limited research with fathers, the majority of studies find that children with difficult temperaments were more sensitive to father involvement. However, the effect was such that paternal interaction resulted in *worse* outcomes compared to less temperamental children (Belsky et al., 1998; Torres, Veríssimo, Monteiro, Santos, & Pessoa e Costa, 2012). For example, Torres and colleagues (2012) tested how fathers' involvement in different activities with their child

related to their children's quality of peer play. They reported that fathers' caregiving was related to children's increased disruptive behavior among their peers, but only for children with difficult temperament. Disruptive peer play behavior included demanding to be in charge or being physically aggressive, which may be conceptually similar to some of the measures in the current study (e.g., aggression, lack of guilt). The authors postulated that this somewhat counterintuitive finding might be due to the temperamental children evoking negative responses from their fathers, resulting in conflict-laden father-child interactions, which could lead to children's negative interactions with peers.

Another differential susceptibility study with fathers found that paternal interaction resulted in worse adjustment for negatively emotional children compared to their less emotional counterparts (Belsky et al., 1998). Belsky and colleagues assessed parenting quality by rating fathers' (and mothers') interactions with their children in the home. Again, surprising results emerged: Among more reactive children, fathers who were more positive, sensitive, and stimulating, as well as less intrusive and negative, had children who were subsequently *more* socially inhibited. It may have been that fathers' sensitivity was perhaps too accommodating for highly wary toddlers, and thus enabled their fearful tendencies. Conversely, when fathers were intrusive and seemingly insensitive, that behavior actually impelled the child to change, pushing them beyond their comfort level so that they became less inhibited.

Only one study actually found evidence of differential susceptibility in which children with difficult temperament outperformed their counterparts (Ramchandani et al., 2010). Among a large sample of British families (N=5,064), Ramchandani and colleagues reported that girls were differential affected by their fathers' involvement, as

determined by a summary index of overall engagement frequency in ten activities. When their fathers were more involved, highly reactive girls had better social outcomes (more prosocial behavior, less problem behavior) compared to their less reactive female counterparts. Notably, the interaction effects were statistically significant, but were substantively small (effect sizes were not reported; the standardized coefficients for the interactions were .02 and -.05).

Yet another study found no evidence for differential susceptibility with fathers. Kim and Kochanska (2012) measured mothers' and fathers' mutually responsive orientation, which was determined by the level of harmony, cooperation, and emotional ambience of the parent-child interaction. They documented no moderation of fathers' responsive orientation by infant negative emotionality on either self-regulation outcome. The authors speculated that their parenting measure might not have been sensitive enough to detect relevant aspects of the father-child relationship, thus resulting in null effects for fathers (neither direct nor interaction effects).

Additionally, child gender may be an important consideration with parental socialization. Empirical evidence points strongly to the notion that fathers parent their children differently by their gender (Baumrind, 1966; Leavell et al., 2012), and that parenting influences their sons and daughters differently (Kerr et al., 2004), with boys often more affected than girls (Chang, Olson, Sameroff, & Sexton, 2011). Furthermore, two of the differential susceptibility studies suggested differences by child gender, one reporting stronger father effects for children with early difficult temperament in a sample that included only fathers of sons (Belsky et al., 1998; 2012), and the other finding Father

x Child Temperament interactions for girls only (Ramchandani et al., 2010). Therefore, I examined the role of child gender.

In sum, children with early emotionality could have less adaptive social-emotional outcomes than their less emotional peers, even in (putatively) positive parenting environments. None of the studies examined both paternal quantity of engagement with measures of the quality of father-child relationship such as warmth and control. All the Fathering x Child Temperament research to date included samples that were mostly (or entirely) White fathers who were either married or cohabiting with the mother. Most of the samples were fairly small and not representative. Thus, the current study not only expands the literature base of temperament as a differential susceptibility factor with fathers, but also diversifies the fathers studied by examining a large sample of African American fathers within various family structures.

### **The Current Study**

The current study sought to examine the implications of patterns of fathers' parenting on their children's subsequent social-emotional development in early childhood using a large sample of African American families. This longitudinal study examined the associations between children's emotionality in infancy, their fathers' parenting patterns when they were age 3, and their social-emotional adjustment at kindergarten age.

Previous research has linked positive quality parenting and quantity of time engaged to children's decreased externalizing behaviors (e.g., Amato, 1999), better attention (Baker, 2013), and more prosocial skills (McWayne et al., 2013), but also increased internalizing problems (Belsky et al., 1998; McWayne et al., 2013). Thus, I expected that fathering patterns marked by high engagement and warmth would have children with less

psychopathology across most dimensions: aggression, lack of guilt, attention problems, and social problems. On the other hand, children of more involved fathers may have greater internalizing problems (i.e., anxious, withdrawn) compared to children of less involved fathers (Belsky et al., 1998; McWayne et al., 2013). With regard to whether father involvement may have differential impacts on children whose early temperaments vary, the limited empirical work examining differential susceptibility among fathers was equivocal. Thus, it was unclear how children higher in infant emotionality would be affected by fathering. If results were consistent with differential susceptibility theory, children of fathers in the very engaged and warm parenting group who also had early difficult temperament would have better outcomes (less problem behavior) compared to those with low emotionality.

## **Method**

### ***Participants***

Participants come from the Fragile Families and Child Wellbeing Study (FFCWS), a longitudinal United States birth cohort study. FFCWS surveyed 4,898 births from a stratified random sample of all large U.S. cities (20 of 77 cities with populations of 200,000 or more). Unwed parents were oversampled such that about three-quarters of the children were born to mothers who were not married (Reichman et al., 2001).

Each wave of data collection consisted of interactions with both mothers and fathers, with questions covering a wide range of domains, such as parenting, relationships, economic status, neighborhood, physical and mental health, and demographics. The data come from surveys at three time points. The proposed

moderator, children's temperament, was from first follow-up survey when infants were one-year-old (1998-2000). The fathering groups were determined based on self-reported parenting data when children were age 3 (three-year follow-up, 2001-2003), which were used as predictors of child outcomes two years later (five-year follow-up, 2004-2006).

Response rates were high, with 86% of mothers and 78% of fathers completing the baseline survey, and similarly high rates for the one-, three, and five-year follow up interviews for fathers (74%, 72%, and 70%, respectively) and mothers (91%, 88%, and 87%, respectively) ("Fragile Families Scales Documentation and Question Sources for Three-Year Questionnaires," 2006). About half of the fathers were identified as non-Hispanic Black (47%) at baseline (McLanahan & Garfinkel, 2003).

The analytic sample for the present study was drawn from a subsample of 1,399 Black fathers from a previous study that identified subgroups of fathering based on paternal engagement, paternal warmth, and spanking. For the current study, Black fathers and their children who had complete mother-reported adjustment data were included (N=1,071).

Compared to families with missing data, the analytic sample included fathers who were slightly younger ( $M=30.4$  years vs.  $M=32.2$  years;  $F(1, 1324)=11.15, p<.01$ ). In terms of socioeconomic status, families with complete data had higher incomes ( $M=31,026.85$  vs.  $M=26,480.25$ ;  $F(1, 1339)=3.90, p<.05$ ) and higher mothers' education ( $M=2.13$  vs.  $M=1.99$ ;  $F(1, 1396)=6.44, p=.01$ ), but lower fathers' education ( $M=2.06$  vs.  $M=2.17$ ;  $F(1, 1378)=4.31, p=.04$ ). Children in the sample were about two months younger than children with missing data ( $M=61.26$  vs.  $M=63.59$ ;  $F(1, 1293)=186.68, p<.001$ ). There were no differences by mothers' engagement ( $F(1, 1311)=2.70, p=.10$ ) or

by child gender ( $F(1, 1397)=0.01, p=.91$ ). Missing data did not affect the proportion of fathers in each parenting group.

### ***Procedure***

The Institutional Review Boards at Columbia University and Princeton University approved the recruitment procedures. Participants provided verbal and written consent at each interview. All follow-up interviews were first attempted by telephone, but if participants could not be reached, field interviewers located the participants. Participants were encouraged to call a toll-free number to complete the survey by phone, but field interviewers were trained to administer the survey instrument in person as needed. Participants completing the three-year interviews by telephone were compensated \$30 for their involvement, and those who were completed the survey by field interviewers were provided \$50 ("Fragile Families Scales Documentation and Question Sources for Three-Year Questionnaires," 2006).

### ***Measures***

The items used in the current study were described below, beginning with children's temperament, followed by the parenting behaviors used to identify patterns of fathering, and then a description of the children's social and emotional outcomes. Last, the background controls were described. To address issues of common method bias, different reporters were used across the measures. Specifically, fathers reported on their own parenting behaviors, and mothers rated their children's temperament as infants as well as children's problem behaviors as five-year-olds. Using mother reports for the children's characteristics also had the advantage of more available data.



### ***Children's early temperament, 1 year old***

Infant temperament was measured using items from the Emotionality, Activity, and Sociability (EAS) Temperament Survey for Children (Ramchandani et al., 2010). Three items (of five total) were included in FFCWS: child often fusses and cries; child gets upset easily, and child reacts strongly when upset. Mothers reported how much these given behaviors were like their one-year-old infant on a five-point rating scale, anchored by “not at all like my child” (1) and “very much like my child” (5). These items were summed to construct an emotionality score ranging from 3 to 15. Internal consistency for mothers was .57 in this sample, consistent with other work using the same set of items ( $\alpha=.60$ ; Walters, 2014) as well as similar measures of reactivity ( $\alpha=.57$ ; Ramchandani et al., 2010).

### ***Paternal Involvement, 3 years old***

#### *Paternal engagement.*

Paternal engagement included items that measured how often fathers spent time with their children in different activities. Based on conceptually similar types of activity, four engagement subscales were created. *Play* was composed of 2 items (e.g., plays imaginary games;  $r=.48$ ), *Caregiving* combined 2 items (e.g., assists child with eating;  $r=.29$ ), *Social* included 2 items (e.g., goes to a restaurant with the child), and *Cognitive* activities combined 3 items (e.g., read stories to child;  $\alpha=.81$ ). Fathers reported frequency on a scale from 0-7 days per week. Items within each subscale were summed such that higher scores reflected more frequent engagement.

*Paternal warmth.*

Items from the six-item parental warmth scale developed by Child Trends (Hofferth, 2003) were used to assess the warmth of the father-child relationship. Fathers reported on how frequently they expressed love and affection to their children in three ways: hugging or showing physical affection, telling their child that they love him/her, and telling their child that they appreciated something the child did. Response options ranged from 0-7 days per week. The three items were summed such that higher scores indicated more warmth ( $\alpha=.82$ ).

*Paternal control.*

Control was operationalized with one item, which asked whether or not fathers spanked their child due to misbehavior in the past month.

***Children's social-emotional adjustment, 5 years old***

Children's behavior problems were measured using a subset of items from the widely used Child Behavior Checklist for children ages 4-18 (Hofferth, 2003). A factor analysis of the full CBCL revealed eight subscales (Achenbach, 1991), six of which were available in the Fragile Families parent survey. Specifically, 17 of the 113 original CBCL items were included that represented six syndrome scales: anxiety/depression (5 available items out of 14 total CBCL items), withdrawal (2 out of 9 items), aggressiveness (5 out of 20 items), delinquency (1 out of 13 items), attention problems (4 out of 11 items), and social problems (3 out of 8 items). Several of the subscales can be further grouped into two higher order scales of internalizing (anxious/depressed and withdrawn) and externalizing (aggressive and delinquent), as well as a total problem behavior score (Achenbach & Edelbrock, 1983). Items included in each subscale are provided in Table

15. Note that the sum of the number of items listed is greater than 17 due to overlapping items for some subscales. For example, one item (child acts too young for age) is part of both the attention scale and the social problems scale. Item overlap across scales is the case with the complete CBCL instrument (Achenbach & Edelbrock, 1983; Macmann et al., 1992).

The items in the anxious/depressed subscale assessed aspects of fearful and nervous behavior, in addition to feelings of worthlessness and frequent crying. The items available from the withdrawn scale tapped into children's social isolation and feelings of sadness. The aggressive scale items measured behavior that was disobedient and attention-seeking, as well as items describing children's emotional tendencies, such as irritability and moodiness.

The single item from the delinquent scale ("child does not seem to feel guilty after misbehaving") is an indicator of an inappropriate affective state following negative actions, which is conceptually similar to callousness (Hyde et al., 2013). Because this single item does not refer to delinquent behaviors per se, the item will be referred to as "lack of guilt" to be more precise and consistent with other studies that have examined this item (e.g., Koolhof, Loeber, Wei, Pardini, & D'escury, 2007).

The four measures in the attention problems subscale relate to focusing and sustaining attention, as well as nervousness and the age-appropriateness of children's behaviors. The full attention problems subscale has established construct validity, test-retest reliability, and has been able to identify children with attention deficit hyperactivity disorder (Achenbach & Rescorla, 2001; Biederman et al., 1993). Last, the social problems scale also included age-appropriateness, but additionally tapped into children's

social rejection by peers and clinginess with adults. Social problems have been predicted by young children's emotion knowledge (Izard et al., 2001) and therefore may reflect deficiencies in their emotional development.

Mothers reported whether items were not true (0), somewhat or sometimes true (1), or very true or often true of the child (2). Items comprising each subscale were summed such that higher scores reflected more problems. Children needed to have complete data on all items comprising the subscale for a sum score to be calculated to ensure that ratings were comparable. Cronbach's alphas for the subscales with at least three items were .55 for anxiety, .71 for aggression, .65 for attention problems, and .43 for social problems. For the two withdrawn items,  $r=.29$ ,  $p<.01$ . Internal consistency for mothers' ratings were low for some subscales in this study, which is not surprising due to the small number of items in each subscale. Scales in the complete CBCL exhibit high reliability (alphas from .76 to .92; Achenbach & Rescorla, 2001).

Due to well-established conceptual distinctions among the CBCL subscales, as well as theoretical and empirical findings that fathers' parenting may differentially relate to particular aspects of child behavior, I used all six subscales separately as opposed to a total behavior score. The original CBCL scales have been established in terms of construct validity, with studies assessing the structure of the multiple syndrome scales using factor analysis (Achenbach, 1991). Thus, given the conceptual and empirical distinctions among the six scales, and the differential effect of fathering on children's internalizing versus externalizing behaviors (McWayne et al., 2013), I considered each scale separately to examine multiple aspects of children's problem behavior.

### ***Controls***

Aspects of the familial context that may relate to differences in child social-emotional adjustment were considered as control variables. Socioeconomic status was assessed by family income (father-reported), paternal education (father-reported), and maternal education (mother-reported). To determine father effects above and beyond the influence of mothers, maternal engagement was measured by interaction in a variety of activities with their child on a scale of number of days per week (0 to 7). Mothers' engagement was computed as the mean frequency in all ten activities, with higher scores indicating more interaction with the child. Also, fathers' residential status, child age (given varying ages of children depending on when the interview was conducted), and child gender were considered as controls, because of the association between these characteristics and children's social-emotional development.

### ***Analytic Strategy***

Preliminary descriptive analyses include reporting means and standard deviations of child social-emotional outcomes for the sample overall and by fathering subgroup, and pairwise correlations between child adjustment and relevant background characteristics.

I used hierarchical linear regression models to test hypotheses regarding whether Black fathers' parenting of their three-year-old children related to their children's later social and emotional development at age five, after taking into consideration contextual factors known to be associated with the outcomes. I had six separate regression models for each of the child social-emotional outcomes. I also tested whether children with difficult temperament were differentially affected by fathers' parenting by adding interaction effects to the models. All continuous control variables were mean-centered

before entering into regression models to aid in interpretation of coefficients and produce meaningful values, e.g., children at age 0 (Tabachnick & Fidell, 2007). I created dummy variables representing the father cluster groups, with Uninvolved as the reference group. Emotionality was mean-centered as well to reduce multicollinearity and because there was no meaningful value of 0 as the original range was from 3 to 15.

In sum, three-step hierarchical regressions were tested. Step 1 included background variables, step 2 added dummy variables for the fathering groups and infant emotionality, and step 3 included the interactions between fathering and emotionality. The multi-step regressions allowed for testing of whether adding interactions to the model significantly improved the variance explained.

To assess whether results support differential susceptibility in particular, first there must be a true disordinal (or cross-over) interaction effect (Roisman et al., 2012). In other words, the interaction must reflect that children with the proposed susceptibility factor (difficult temperament) not only face worse outcomes in poorer caregiving environments compared to temperamentally easy children, but also they outperform their counterparts when in positive parenting environments.

Evidence for differential susceptibility can be better distinguished from dual-risk (e.g., that difficult temperament is a risk factor that exacerbates the negative effects of poor caregiving) through several additional statistical procedures, such as Regions of Significance testing (Roisman et al., 2012). Although the Regions of Significance approach is more precise than traditional simple slopes analysis because it provides the exact ranges of the moderator (infant temperament) in which the simple slopes (fathering

to child outcomes) were statistically significant, unfortunately this was not feasible due to the categorical nature of the fathering variable.

Instead, following significant interactions I conducted simple slopes analysis to determine the effect of emotionality on the child outcome for each fathering group. Given that the main effect of emotionality in the regression models including all predictors (including the interaction terms) refers to the slope for the reference group of fathers (i.e., the group whose value is 0 in the model), I obtained simple slopes for each fathering group by re-running regression models using a different reference group each time and obtaining the coefficient for infant emotionality.

To further probe interaction effects, I tested whether the differences between children of fathers in different clusters were significant for the infants who were low on emotionality (-1 SD below the mean) and those who were high (+1 SD above the mean) (Aiken & West, 1991). Considering the categorical nature of the fathering measure and the continuous moderator of emotionality, I tested these differences by re-centering emotionality at the high and low values of interest, as well as creating new interaction terms with fathering by emotionality using the re-centered variables. Then, I conducted regressions with all predictors (including interactions), and examined the main effects of the father groups to assess whether any groups differed from the reference group.

## **Results**

### ***Descriptive summary and preliminary analyses***

The sample of 1,071 families included fathers who were about 30 years old on average (see Table 17). Families had a mean income of approximately \$31,000. Most mothers and fathers had at least a high school diploma. The sample was about evenly

comprised of boys and girls, who were about 61 months old at the time of the outcome measures. In terms of children's social-emotional adjustment, the means for each subscale were low and not in the clinical range. The vast majority of children were rated as a 0 on most scales, indicating no problem behaviors in that area. For instance, the majority of children (85%) were reported by mothers as having no issues withdrawing from others.

In terms of infant emotionality as well as child psychopathology, there were no mean differences by father parenting group. On average, children in the sample were rated moderately on emotionality, with a mean of 8.6 on a scale from 3 to 15. Overall ratings on each of the six CBCL subscales were low in this non-clinical sample.

Bivariate correlations among the study variables were presented in Table 18. There were statistically significant, positive associations among the three socioeconomic indicators of income, fathers' education, and mothers' education. Socioeconomic status was inversely correlated with most of the child temperament and CBCL outcomes, with slightly more pronounced relationships with mothers' education level versus income or paternal education. Mothers' engagement was only associated with emotionality and attention problems, and in the negative direction. No statistically significant correlations emerged for child gender or child age. Infant emotionality was positively related to all psychopathology measures, most strongly for anxiety ( $r=.23$ ) and aggression ( $r=.28$ ). Small to moderate correlations existed among all CBCL subscales ( $r$ s ranging from .08 to .61). The largest associations were between anxious and withdrawn ( $r=.57$ ), anxious and attention ( $r=.61$ ), and attention and social problems ( $r=.57$ ), which might be expected given item overlap between each pair of these scales.



### ***Creation of paternal involvement clusters***

Using latent class analysis, I estimated models with one to six groups (ranging from 1 to 6 clusters) based on father reports on six parenting indicators: engagement frequency in four activity types (play, caregiving, social, and cognitive), paternal warmth, and spanking. Model fit statistics (low BIC, non-significant bootstrap p value, bootstrap likelihood ratio tests, low bivariate residuals) favored a 4-cluster solution. Fathers were assigned to one of four parenting groups based on the highest posterior probability of membership.

The largest group of fathers (Average Involved, 41%) was around the sample mean in all domains. All measures of paternal engagement, warmth, and control were within half a standard deviation of the sample mean. The next largest proportion of fathers (Low Involved-Disciplinarians, 25%) was marked by relatively low interaction in play and cognitive activities, but also slightly higher than average probability of spanking their child. The third cluster (Highly Involved, 19%) included fathers who were at least half a standard deviation above the mean in all four categories of engagement as well as warmth. They were particularly engaged in play and cognitive stimulation (e.g., singing songs and reading stories). The smallest proportion of fathers (Uninvolved, 15%) was lower in every parenting behavior measured. There were about a standard deviation below the mean in all four types of engagement activities, almost two standard deviations below the mean in warmth, and slightly less likely to report they spanked their child.

***Fathering groups, infant emotionality, and their interactions predicting children's withdrawal and lack of guilt***

I conducted hierarchical multiple regressions to examine the effects of fathering groups, infant emotionality, and their interactions (taking into account several factors known to be related to child psychopathology) on six child outcomes: anxiety, withdrawal, aggression, lack of guilt, attention problems, and social problems. Due to the association between certain demographic characteristics and the child outcomes of interest, step 1 of the regression models included several controls. Initially, I controlled for family income, fathers' education, mothers' education, mothers' engagement with the child, fathers' residential status, child gender, and child age. However, given that income, fathers' education, residential status, and the age of the child were not statistically significantly related to any of the child outcomes (and the similarity in results with and without these variables in the models), such controls were dropped for parsimony and to retain as large a sample size as possible for all analyses.

Thus, step 1 of all regression models included mothers' education, mothers' engagement, and child gender. Step 2 of the models included dummy variables for three of the fathering groups ("Uninvolved" was the reference category) and infant emotionality. The third and final step of the models included the interactions of fathering group with infant emotionality. Results for the six regressions including the effects of demographic controls, fathering groups, emotionality, and interactions were provided in Tables 19-21. Findings were described by child adjustment outcome.

### *Anxiety.*

In the first step predicting children's level of anxiety, only maternal education was a significant predictor such that greater maternal education was associated with less anxious children ( $B=-0.21$ ,  $SE=0.05$ ,  $p<.001$ ). In the next block that added father parenting groups and infant temperament, maternal education remained significant. Emotionality was positively linked to children's anxiety ( $B=0.10$ ,  $SE=0.01$ ,  $p<.001$ ). The third step of interactions did not add significantly to the model.

### *Withdrawal.*

For children's level of withdrawal from others, maternal education was again inversely related ( $B=-0.07$ ,  $SE=0.02$ ,  $p<.001$ ). The second block of the model included mothers' engagement and infant emotionality as significant predictors. The more time mothers spent with their children ( $B=0.03$ ,  $SE=0.02$ ,  $p<.01$ ) and the more difficult temperament shown by children as infants ( $B=0.02$ ,  $SE=0.01$ ,  $p<.01$ ), the higher rating of withdrawn they were given relative to children whose mothers spent less time with them, and who did not have difficult temperament.

In the third and final block of the model, there was a significant interaction for the Highly Involved fathering group by emotionality ( $B=0.04$ ,  $SE=0.11$ ,  $p<.05$ ). Although the set of interaction terms did not significantly add to the model ( $F_{ch}(3, 1060)=1.77$ ,  $p=.15$ ), the overall model was statistically significant (adjusted  $R^2=.03$ ,  $F(10, 1060)=3.42$ ,  $p<.001$ ). The Fathering x Infant Temperament interaction was plotted in Figure 1 to better understand the nature of the effects. The graphical display of the slopes of infant temperament on children's level of withdrawal for each of the fathering groups revealed that the interaction effect was disordinal, or the slopes crossed over each other. A

disordinal interaction effect is the first requirement to meet differential susceptibility. However, the direction of the effect was counter to differential susceptibility. For children with fathers in certain parenting groups, children with difficult temperament were rated worse - not better - compared to children with easier temperaments.

The statistically significant interaction term with Highly Involved fathers indicated that the association of early emotionality on child withdrawal was different for Highly Involved fathers compared to Uninvolved fathers (the reference group). However, it was unclear whether the association between emotionality and the level of withdrawn for children of fathers in different parenting groups were significantly different from zero. Thus I obtained simple slopes for each fathering group by re-running regression models using a different reference group because the main effect of emotionality (in the full regression model including all predictors) refers to the simple slope for the reference group of fathers (i.e., the group whose value is 0 in the model).

There were significant, positive associations between infant emotionality and level of withdrawn for children whose fathers were in the Average Involved cluster ( $B=0.02$ ,  $SE=0.01$ ,  $p=.03$ ) and Highly Involved cluster ( $B=0.04$ ,  $SE=0.01$ ,  $p<.01$ ), but no association for Low Involved-Disciplinarians ( $B=0.01$ ,  $SE=0.01$ ,  $p=.66$ ) or Uninvolved fathers ( $B<0.01$ ,  $SE=0.01$ ,  $p=.93$ ).

To further probe this interaction effect, I tested the differences between children of fathers in different clusters for those who were low on emotionality as infants (-1 SD below the mean) and those who were high (+1 SD above the mean). Because the significant interaction effect involved the Highly Involved group, I made this cluster of fathers the reference group so that I could compare whether the Average Involved, Low

Involved, and Uninvolved groups significantly differed from the Highly Involved group at certain levels of infant emotionality.

For children's relative levels of withdrawal from others, at low levels of emotionality (-3.17), children of Highly Involved fathers were different than Low Involved ( $B=0.251$ ,  $SE=0.103$ ,  $p=.015$ ) and Uninvolved ( $B=0.232$ ,  $SE=0.111$ ,  $p=0.038$ ), but not Average Involved fathers ( $B=0.151$ ,  $SE=0.089$ ,  $p=.09$ ). At high levels of emotionality (3.17), again children of Highly Involved fathers were different than Low Involved ( $B=0.455$ ,  $SE=0.200$ ,  $p=.024$ ) and Uninvolved ( $B=0.459$ ,  $SE=0.217$ ,  $p=0.035$ ), but were similar to children of Average Involved fathers ( $B=0.276$ ,  $SE=0.173$ ,  $p=.112$ ).

#### *Aggression.*

Control variables accounted for a significant proportion of the variance in children's aggression (adjusted  $R^2=.01$ ,  $F(3, 1067)=5.51$ ,  $p=.001$ ). Only mothers' level of education was significantly related, and in the negative direction ( $B=-0.28$ ,  $SE=0.08$ ,  $p<.001$ ). No additional effects were significant in the second block of fathering and infant temperament. None of the interaction effects of Fathering x Child Temperament were significant either, although early emotionality emerged as positively related to kindergarteners' aggression in the third step of the model with interaction terms ( $B=0.17$ ,  $SE=0.05$ ,  $p<.01$ ).

#### *Lack of guilt.*

The first block of control variables significantly predicted children's lack of guilt following misbehavior (adjusted  $R^2=.01$ ,  $F(3, 1067)=6.16$ ,  $p<.001$ ). Only maternal education significantly predicted the outcome ( $B=-0.09$ ,  $SE=0.02$ ,  $p<.001$ ). In the second step, maternal education remained significant. Children with early negative temperament

were rated as displaying less guilt after wrongdoing relative to children with less difficult temperament ( $B=0.01$ ,  $SE=0.01$ ,  $p<.05$ ).

Although the third step of the model including interactions did not significantly contribute to the model ( $F_{ch}(3, 1060)=1.77$ ,  $p=.15$ ), the interaction term for the Highly Involved fathering group by children's temperament was statistically significant ( $B=0.04$ ,  $SE=0.02$ ,  $p<.05$ ). This indicated the simple slope of emotionality on children's lack of guilt was different for Highly Involved fathers compared to Uninvolved fathers. The model overall significantly predicted variance in children's lack of guilt after misbehavior (adjusted  $R^2=.020$ ,  $F(10, 1060)=3.17$ ,  $p=.001$ ). The interaction was depicted in Figure 2, which showed a disordinal interaction effect. As with the Fathering x Child Temperament interaction for children's withdrawal, children with difficult temperament were rated relatively worse on the social-emotional outcomes compared to children with easier temperaments in certain parenting clusters.

To determine for which fathering groups was the association statistically significant between early temperament and how characteristic it was for the child to not show guilt following misbehavior, I used different reference groups for the fathering clusters and tested the main effect of emotionality. Emotionality and lack of guilt were significantly positively related only for children of Highly Involved fathers ( $B=0.04$ ,  $SE=0.01$ ,  $p=.01$ ). There was no association for any other patterns of paternal parenting (Average Involved:  $B=0.01$ ,  $SE=0.01$ ,  $p=.30$ ; Low Involved:  $B=0.01$ ,  $SE=0.01$ ,  $p=.62$ ; and Uninvolved:  $B=-0.01$ ,  $SE=0.02$ ,  $p=.77$ ).

Again, I probed the interaction effect by testing whether the differences between children of fathers in different clusters were significant for the infants who were low and

high on emotionality. With respect to how true it was that children showed less guilt after wrongdoing, there was a statistically significant relation between emotionality and level of guilt only for children of Highly Involved fathers ( $B=0.04$ ,  $SE=0.01$ ,  $p=.005$ ), but not for any other father clusters (Average Involved:  $B=0.01$ ,  $SE=0.01$ ,  $p=.30$ ; Low Involved:  $B=0.01$ ,  $SE=0.01$ ,  $p=.62$ ; and Uninvolved:  $B=-0.01$ ,  $SE=0.02$ ,  $p=.77$ ). Specifically, at low levels of emotionality, children of Highly Involved fathers were rated as showing more guilt following misbehavior than all other fathering groups: Average Involved ( $B=0.256$ ,  $SE=0.102$ ,  $p=.012$ ), Low Involved ( $B=0.247$ ,  $SE=0.119$ ,  $p=.038$ ), and Uninvolved ( $B=0.291$ ,  $SE=0.128$ ,  $p=.023$ ). At high levels of emotionality, children of Highly Involved fathers displayed less guilt than all other fathering groups: Average Involved ( $B=0.445$ ,  $SE=0.199$ ,  $p=.026$ ), Low Involved ( $B=0.455$ ,  $SE=0.231$ ,  $p=.049$ ), and Uninvolved ( $B=0.569$ ,  $SE=0.250$ ,  $p=.023$ ).

#### *Attention problems.*

Regarding problems paying attention, all three controls were significant predictors and explained two percent of the variance (Adjusted  $R^2=.02$ ,  $F(3, 1067)=8.61$ ,  $p<.001$ ). Lower maternal education ( $B=-0.17$ ,  $SE=0.05$ ,  $p<.01$ ) and less engagement by mothers ( $B=-0.14$ ,  $SE=0.04$ ,  $p<.01$ ) were associated with greater attention problems. Boys had more attention problems than girls ( $B=0.19$ ,  $SE=0.10$ ,  $p<.05$ ). Adding predictors for the different patterns of fathering and children's early temperament resulted in a significant model (adjusted  $R^2=.05$ ,  $F(7, 1063)=8.20$ ,  $p<.001$ ). None of the fathering effects were statistically significant, but infant emotionality was positively associated with more attention problems ( $B=0.08$ ,  $SE=0.02$ ,  $p<.01$ ). No interaction effects in the third step were significant, and neither did the block significantly improve the model.

### *Social problems.*

Background variables explained a significant amount of variance in children's social problems (adjusted  $R^2=.02$ ,  $F(3, 1067)=7.49$ ,  $p<.001$ ). Maternal education was associated with better outcomes again, namely fewer social problems ( $B=-0.17$ ,  $SE=0.04$ ,  $p<.001$ ), but there were no differences according to mothers' level of engagement or child gender. In the next block of fathers' parenting and infant temperament, maternal education was still inversely related to social problems, and more emotionality as an infant was related to more social problems four years later ( $B=0.05$ ,  $SE=0.01$ ,  $p<.001$ ). The final step of interactions did not significantly improve the model, nor were any of the interaction terms statistically significant.

### ***Post-hoc tests for child gender differences***

Even though there were no differences between boys and girls in this sample on most of the six social-emotional outcomes (with the exception of attention problems), it could be possible that fathers' parenting was differently associated with adjustment for boys and girls. To test this possibility, I first conducted ANOVAs to determine whether there were differences among children of the four fathering groups on each adjustment outcome, separately for girls and for boys. No significant differences emerged ( $ps >.06$ ).

Additional analyses included hierarchical regressions for each of the six adjustment measures with interactions between father parenting group and child gender. There were no significant interaction effects with gender, suggesting that boys and girls with fathers in the same parenting clusters had similar outcomes, controlling for infant emotionality, mothers' education, and maternal engagement. Lastly, given the significant Fathering x Child Temperament interactions for withdrawn and lack of guilt in particular,



I conducted regressions with these outcomes separately for girls and boys. With respect to children's withdrawal, none of the predictors (controls, fathering, interactions) were statistically significant for girls. On the other hand, the interaction of Highly Involved fathering by temperament was marginally significant for boys ( $p=.07$ ), suggesting that boys may be driving the interaction effects found with the full sample. Regarding children's guilt, none of the interactions were statistically significant for boys or girls.

## **Discussion**

The aims of this study were to evaluate whether patterns of fathering related to children's later social and emotional development, above and beyond background characteristics, and secondly, to determine whether children's early temperament would moderate the association between fathering and child outcomes. Hierarchical regression analyses revealed no direct effects of father cluster membership on any of the dimensions of children's emotional and behavioral problems. However, there was an interaction of infant emotionality with fathering such that children with lower emotionality who had Highly Involved fathers had lower ratings of withdrawal relative to other children (along with children of Average Involved fathers) and had the lowest ratings of lack of guilt after misbehavior. Thus, infant emotionality did serve as a factor that made children more sensitive to fathering for withdrawal and lack of guilt, but counter to differential susceptibility, emotional children were rated as having more problem behavior, not less. At the same time, children's adjustment levels in this sample were largely in the normative range; very few children actually met clinical cut points for any of the subscales. Nonetheless, these study findings complicate and perhaps provide a way of

explaining some previous father involvement scholarship with counterintuitive findings by suggesting that paternal effects may be dependent on children's temperament.

***(The lack of) direct effects of fathering on children's social and emotional development***

Contrary to expectations, there were no significant differences among the four father parenting groups for any of the six CBCL syndrome scales, either in bivariate analyses or in multivariate regressions controlling for maternal education, maternal engagement, and child gender. This is somewhat contrary to the meta-analysis of fathering effects on psychosocial adjustment in early childhood (McWayne et al., 2013), which found small to moderate effects of fathers' involvement on young children's behaviors. Specifically, fathers' positive engagement in activities was associated with more internalizing behaviors and less externalizing in their children, whereas negative quality fathering (e.g., physical punishment) was related to more externalizing behaviors. Yet other studies have found no direct fathering effects on social-emotional outcomes in early childhood (Kim & Kochanska, 2012; McWayne et al., 2013), including among samples of Black fathers (e.g., Black et al., 1999; Mitchell & Cabrera, 2009). For example, one study found no association between African American fathers' positive parenting – comprised of the quality of fathers' engagement, warmth, and structure observed during free play – and their three-year-old children's behavior problems (CBCL; Achenbach & Rescorla, 2000). Across all previous research, scholars have used variable-centered approaches that examine individual parenting behaviors separately, rather than *patterns* of fathering. Thus, this was the first study to determine whether and how profiles of fathers' parenting behaviors were related to later child development.

In addition, the theoretical Dynamics of Paternal Influence on Children over the Life Course model posits that indirect effects are more likely than direct father effects. Cabrera and colleagues' (2007) postulated that, in cases of normative child development, fathers' effects on children would be mediated via multiple secondary pathways, such as through mothers, peers, and schools, as well as through effects of intermediate variables that are more proximal to children's outcomes. Thus, it may be less surprising that there were no direct effects between patterns of fathers' parenting when children were three years old on children's problem behaviors two years later. Perhaps important intervening variables could have linked paternal influences and child outcomes, including self-regulatory abilities such as effortful control (Chang et al., 2011).

Another possible explanation for the lack of differences in child adjustment according to different fathering patterns could be due to the developmental timing of paternal influences. Father effects may be more salient earlier in development, but the strength of association declines over time. For example, the one study of person-oriented fathering reported that fathers with more aggressive disciplinary styles had more aggressive children, but this was a cross-sectional association. Also, there were no controls and their child outcome measure used 19 CBCL aggression items, which was more than the total number of items available across all six scales (as a reminder, their study aimed to validate their paternal discipline profiles, rather than predict subsequent child development).

A stronger example to support the notion of differential effects at different points in time (even within the early childhood period) is a study by Cabrera and colleagues (2007). They found effects for fathers' intrusiveness concurrently on children's social-

emotional regulation, but not longitudinally on similar outcomes at age 3 and pre-K. Given that maternal intrusiveness did predict children's later outcomes, they postulated that older children might interpret fathers' intrusive behaviors in a more positive way than they do mothers' behaviors.

Measurement factors could be involved in the absence of father effects as well. Some scholars suggest father effects are less likely to emerge from father-reported parenting as compared to observed parenting (Cabrera, Shannon, et al., 2007; Mitchell & Cabrera, 2009; Ryan, Martin, & Brooks-Gunn, 2006). However, that could be conflating *reporter* with *type of measurement*, as most father measures in surveys ask about the frequency of interaction, whereas observer-reported measures often assess the quality of interactions.

Another measurement issue could have been in the creation of fathering groups. Perhaps the fathering profiles were not differentiated enough to discern differences in child outcomes. For instance, because father profiles emerged from a large, diverse sample of African American fathers, some of whom who lived with their child and others who did not, it may be that the clusters were distinguished by the more apparent differences, but did not capture as well the more fine-grained nuances in different parenting patterns. In another study that found null effects for fathers, the authors speculated that their measure of quality fathering (parental mutually responsive orientation) may not have been sensitive enough to detect relevant aspects of the father-child relationship, thus leading to null effects for fathers (Kim & Kochanska, 2012). It could be that additional measures of fathers' parenting would have better distinguished the cluster groups. Also, such qualitative aspects of fathering are relevant to children's

social development, such as fathers' dominance during play (Flanders et al., 2010) and paternal protectiveness (Hastings et al., 2008).

The lack of direct father effects in the present study could have been a statistical artifact of the limited range and small variance of the child CBCL measures in this non-clinical sample. For example, about 85% of children were rated the lowest value on the withdrawn scale, and only four children were rated at the maximum value of 4. To better attend to the skewed distribution, I also conducted analyses with dichotomous outcomes (e.g., one group of children with a 0 rating and one group of children with ratings greater than 0), but differences by fathering group still failed to emerge. Additionally, the outcomes had low internal consistency, which is likely due to the few items per scale (Achenbach & Edelbrock, 1983). I repeated analyses with the total CBCL scale representing all available items (which had a more normal distribution and broader range of possible responses), but there were still no effects of father cluster membership. Even if differences did emerge between children of different fathering patterns on the total problem behavior score, the results would be difficult to interpret because the outcome conflates several different types of psychopathology.

***The moderating effect of infant emotionality on how father groups related to children's withdrawal and lack of guilt***

Significant interaction effects were found for two of the six CBCL measures: relative levels of withdrawn and lack of guilt following wrongdoing. For the withdrawal outcome, children of Highly Involved and Average Involved fathers who were higher in early emotionality had higher ratings of withdrawal compared to children with lower emotionality. For the lack of guilt outcome, only children of Highly Involved fathers

were affected by early emotionality such that children who were difficult as infants were rated less guilty after misbehavior than children with easier temperaments.

How does that compare to previous findings? Most of the limited work testing Fathering x Child Temperament documented that children with negative temperament had worse outcomes than their less temperamental counterparts (Belsky et al., 1998; Torres et al., 2012), such as more inhibition and greater disruption in peer play. Also, the interaction effects in the present study were small in magnitude, but that was similar to the only previous study that found evidence for reactive children outperforming their less reactive counterparts with greater father involvement, and that sample also was large and representative (Ramchandani et al., 2010).

In particular, the finding for children's level of withdrawn was remarkably similar to Belsky and colleagues' (1998) study. One of their primary child outcomes was inhibition, which is conceptually similar to withdrawing from others. Among children with early negative temperament, fathers who were more positive and less negative had more inhibited children.

Regarding lack of guilt after misbehavior, the current study's finding was reminiscent of a study on activative fathering. Activative fathering implies a potentially greater emphasis on play and cognitive stimulation, as well as appropriate levels of control in terms of limit setting, all embedded in a warm and supportive environment. Stevenson and Crnic (2012) found that father activation was associated with children's greater dysregulation during a wait task. In other words, children with more activative fathers, who may be represented by the Highly Involved fathers in the present study, were

more likely to be disruptive and impulsively break the rules by touching or playing with a prohibited toy, perhaps consistent with children who lack guilt after misbehavior.

Yet the current study adopted Stevenson and Crnic's recommendation to examine the role of temperament and provides preliminary evidence that activative fathering (as assessed in the current study) may be a better fit for low emotionality children. Such an inference is largely speculative, given that the measures in the present study do not tap into the precise dimensions conceptualized in the father-child activation relationship (Paquette, 2004).

As mentioned previously, the interaction effects in the present study were small in magnitude. Also, the entire block of interactions as a whole lacked statistical significance, suggesting the tenuous nature of these interaction effects. Thus, I proceeded with caution in interpreting these effects. Three of the most probable explanations include fathers' unintentional reinforcement of highly emotional children; pushing children beyond their limits; and lack of appropriate disciplinary style. First, fathers could be inadvertently reinforcing children with early emotionality. Perhaps fathers who were more present with their child, spending time with them in different activities, fostered the development of their child's natural proclivities. As Belsky and colleagues' explained in their seemingly counterintuitive effects, perhaps some fathers were too sensitive and accepting of their child's worries such that they enabled children who were wary as infants to remain fearful and inhibited. Some prior research suggests that fathers are more insensitive and cold with temperamentally difficult children (e.g., Volling & Belsky, 1992), so it is possible that greater paternal involvement could further facilitate children's problem behaviors.

Another possible explanation could be that Highly Involved fathers are involved in a way that is overpowering and overstimulating for emotional children. The style of challenging, pushing, and urging children to take risks may be overwhelming for children with difficult temperaments.

A third alternative may be that highly emotional children require more disciplinary firmness and induction. To successfully raise children with early difficult temperament, a no-nonsense disciplinary style could be especially important. Furthermore, consistent with Belsky's interpretation, fathers of children with early difficult temperament were more assertive and intrusive to overcome their children's tendency to withdraw. Also, parents sharing their reasoning with children and discussing positive alternatives in their behavior could be crucial for difficult temperament children. In general, parental inductive discipline has been found to help manage children's dysregulated behavior (e.g., Lengua, Honorado, & Bush, 2007). In fact, the original conceptualization of parenting styles described authoritative parents as those who communicated with their children about why they enforce certain rules (Baumrind, 1966). Parents who talk to their children about their feelings after they misbehave, and the perspectives of others they may have hurt and why they should apologize, may better foster their children's moral development (Hoffman, 1975).

### ***Implications***

Given the absence of significant differences in social-emotional adjustment between children whose fathers exhibited different parenting patterns, we as researchers and practitioners interested in promoting paternal involvement should think carefully about how we measure and label high quality fathering. In the current study, children of



fathers in the Highly Involved, Average Involved, Low Involved-Disciplinarians, and Uninvolved groups did not differ in levels of anxiety, withdrawal, aggression, lack of guilt, attention problems, or social problems. Of course, parenting is not the sole socialization influence on young children. Parenting is complex, and part of the effectiveness of parenting depends on characteristics of the children, not solely what the parent does or does not do. It may be particularly challenging for parental influences to overcome children's temperamental makeup.

That Highly Involved fathering was associated with worse outcomes for children with difficult temperament does not imply that Highly Involved fathers were "bad" parents. In fact, I found in a previous study that the Highly Involved group had as much or more positive characteristics and fewer risk factors compared to other fathering groups. Furthermore, in some previous studies, putatively "good" fathering (positive, less intrusive, responsive) was inversely related or unrelated to positive child development (Belsky et al., 1998; Kim & Kochanska, 2012), which complicates our understanding of paternal influences.

In addition to complexities around the conceptualization and measurement of fathers' parenting, we must continue to explore the complexity of how fathers influence children's development. In the current study, children whose fathers enacted certain parenting patterns had relatively higher withdrawal scores and showed comparatively less guilt after misbehavior, but only if they were highly emotional as infants. This suggests that fathers may need to be careful in how they interact with their children and consider their children's natural proclivities. Another corollary follows: The most beneficial caregiving environment may not be the same for all children. In promoting greater and

continued involvement of fathers, it may be important to include in those messages the importance of fathers' sensitivity to their child's individuality, including temperament.

That child temperament mattered for levels of withdrawal and lack of guilt only among the most involved fathering groups (Highly Involved and Average Involved) supports the inclusion of fathers' quantity of engagement, not solely quality of parenting measures (a point also made by other scholars, e.g., McWayne et al., 2013). It may have been that paternal engagement was less important among the extant fathering studies that used samples of married and/or cohabiting families. As paternal involvement research continues to expand to include more diverse fathers, there should be measures of interaction frequency.

### ***Considerations, Strengths, and Future Directions***

The current study was limited by several considerations, particularly in terms of measurement. The items used to distinguish fathers' parenting profiles did not include all aspects of the quality of father-child interactions. Paternal warmth was a proxy for quality, but measures of fathers' responsiveness, sensitivity, and intrusiveness were not available, for instance. Also, the measure of parental control was crude: a single item indicator of whether the father spanked the child for misbehavior. Thus, I may not have been able to tease apart as well different styles of fathering. In general, all the fathering measures were self-report, with no observed ratings of parenting. Yet this is the first study to examine patterns of fathering, rather than individual dimensions of involvement separately, representing an important perspective in the paternal influences literature.

Additionally, examining multiple subscales of children's psychopathology was a strength. Had the overall child problem behavior scale been used, or even the

internalizing and externalizing scales, the nuanced findings of father effects for particular social problems may not have emerged. At the same time, the subscale reliabilities were low in this study, likely a result of the number of items per scale.

With respect to interaction effects, perhaps the current study's results would have been stronger had temperament been measured earlier than at the end of the child's first year. Volling and Belsky (1992) reported that father-infant security related to child temperament at 3 months but not 9 months, suggesting that earlier temperamental qualities may be more salient for fathers. Research on child temperament also finds that temperament exhibits only moderate stability, which suggests that temperament also may change over time (Olson, 1980).

Regardless of timing, the emotionality temperament construct used in this study did not differentiate between different types of emotions, nor between positive and negative emotions, but rather assessed children's general fussiness, proneness to distress, and reactivity. Different facets of negative emotionality have been associated with internalizing (e.g., anger and irritability) and externalizing (e.g., fear and sadness) (Eisenberg et al., 2009). However, the measure in the current study assessed general reactivity, which may be why emotionality was positively related (without interaction terms in the models) to all outcomes. Mothers reported both children's early temperament and their social-emotional problems as kindergarteners, so the issue of common method bias must be considered as well.

The current study has several methodological strengths as well, including the use of data from different sources for paternal involvement and children's adjustment, longitudinal analysis, and considering mother involvement (Pleck, 2012). However, the

study did not take a family systems approach. Conceptually, fathers' parenting behaviors are part of a larger family system (as well as other systems, such as communities and historical contexts) that may interact with how father effects manifest. Controlling for mother involvement is important because mother and father involvement are often correlated, but there could be statistical issues because the participants are not independent and thus the error terms are correlated (Pleck, 2010). Conceptually, it is probable that children's outcomes are the product of both parents' involvement and interaction styles (Paquette et al., 2000).

Lastly, the amount of variance explained in children's social-emotional adjustment was low for all models. However, the purpose of this study was not to explain the majority of variance in children's adjustment, but to determine whether fathering related to child outcomes. Furthermore, the amount of explained variance was similar to previous fathering studies (Belsky et al., 1998; Kim & Kochanska, 2012; Ramchandani et al., 2010) and consistent with the overall small effects in the literature (McWayne et al., 2013).

Future research should continue exploring the effects of paternal patterns of fathering on child development using more nuanced measures. Additionally, studies should consider more of the family context by more complex examinations of mothers' and fathers' parenting, coparenting, and sibling relationships. Empirical testing of the mechanisms through which fathering influences children's social development is critical to further theoretical development in the field. We should continue to examine multiple facets of children's adjustment using multiple reporters, such as parents, teachers, and observers, as well as measures with better reliability.

## *Conclusions*

In sum, the current study examined the associations among early child temperament, patterns of fathering behavior in late toddlerhood, and children's social-emotional adjustment at kindergarten. For children who were more reactive and emotional as infants, having a father in the Highly Involved parenting group resulted in withdrawing more from peers and less guilt following wrongdoing compared to children who were less reactive. Results also indicate the importance of furthering our conceptualization and measurement of fathers' parenting, as certain patterns of behavior may seem good, but may not be related to positive outcomes for all children. The current study suggests the need for further research to elucidate the nature of reciprocal transactions between fathers and their children. For researchers, practitioners, and stakeholders interested in encouraging paternal involvement, we may better serve children and families by revisiting the message of "more is better" – even in particular types of activities – (Palkovitz, 1997) and consider ways to better support fathers in attending to the individuality of their children.

## Tables and Figures

Table 15 Available CBCL items by subscale

<b>Anxious/Depressed</b>	<b>Withdrawn</b>	<b>Aggressive</b>	<b>Delinquent<sup>a</sup></b>	<b>Attention Problems</b>	<b>Social Problems</b>
Child cries a lot	Child is unhappy, sad, or depressed <sup>c</sup>	Child demands a lot of attention	Child does not seem to feel guilty after misbehaving	Child acts too young for age <sup>d</sup>	Child acts too young for age <sup>d</sup>
Child feels worthless/inferior	Child is withdrawn, doesn't get involved with others	Child has sudden changes in mood or feelings		Child can't concentrate	Child clings to adults or too dependent
Child is nervous, high strung, or tense <sup>b</sup>		Child is disobedient		Child can't sit still	Child does not get along with other kids
Child is too fearful or anxious		Child is stubborn, sullen, or irritable		Child is nervous, high strung, or tense <sup>b</sup>	
Child is unhappy, sad, or depressed <sup>c</sup>		Child has temper tantrums or hot temper			

Note: <sup>a</sup>Original name of CBCL scale; for purposes of the current study, scale is referred to by the single item available, namely children's lack of guilt following misbehavior. <sup>b</sup>Item is part of Anxious/Depressed and Attention Problems. <sup>c</sup>Item is part of Anxious/Depressed and Withdrawn. <sup>d</sup>Item is part of Attention Problems and Social Problems.

Table 16 Sample father and family characteristics (N=1071)

	<b>Actual Range</b>	<b>M</b>	<b>SD</b>
Father age (years)	18-71	30.42	7.51
Family income (\$)	0-72,000	31,026.85	35,448.63
Father education	1-4	2.06	0.85
Mother education	1-4	2.13	0.91
Mother engagement	1-7	4.36	1.11
Child gender (% boys)	N/A	51.26	0.50
Child age (months)	58-72	61.26	2.17
Infant Emotionality	3-15	8.63	3.17
Child anxious	0-10	0.98	1.37
Child withdrawn	0-4	0.20	0.55
Child aggressive	0-10	3.25	2.25
Child lack of guilt	0-2	0.44	0.63
Child attention problems	0-8	1.39	1.57
Child social problems	0-6	0.86	1.11

Table 17 Infant emotionality and child problem behavior subscale means (standard deviations) by father subgroup

	Average Involved <i>n</i> =432 40%	Low Involved <i>n</i> =271 25%	Highly Involved <i>n</i> =208 19%	Uninvolved <i>n</i> =160 15%	<i>F</i> statistic
Infant emotionality	8.56 (3.30)	8.94 (2.95)	8.48 (3.15)	8.51 (3.21)	1.15
Child anxious	1.04 (1.39)	0.93 (1.32)	0.90 (1.33)	1.03 (1.42)	0.68
Child withdrawn	0.20 (0.56)	0.23 (0.58)	0.15 (0.49)	0.20 (0.52)	0.69
Child aggressive	3.26 (2.23)	3.27 (2.23)	3.18 (2.33)	3.29 (2.24)	0.09
Child lack of guilt	0.47 (0.64)	0.45 (0.61)	0.37 (0.61)	0.44 (0.65)	1.36
Child attention problems	1.46 (1.59)	1.45 (1.63)	1.25 (1.48)	1.24 (1.53)	1.47
Child social problems	0.88 (1.07)	0.85 (1.21)	0.77 (1.07)	0.92 (1.09)	0.64

Table 18 Correlations of background characteristics, infant emotionality, and child CBCL subscales (*N*=1071)

	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Family income (\$)	--	.37**	.45**	.01	.01	.03	-.06	-.06*	-.04	-.08*	-.06	-.07*	-.07*
2. Father education		--	.51**	.02	-.04	-.02	-.09**	-.08*	-.04	-.11**	-.05	-.10**	-.12**
3. Mother education			--	.01	-.01	.02	-.10**	-.14**	-.11**	-.12**	-.13**	-.10**	-.14**
4. Mother engagement				--	.03	-.03	-.06*	-.03	.06	-.05	-.04	-.10**	.01
5. Child gender					--	-.03	.01	.02	.01	.001	-.001	.06	.03
6. Child age (months)						--	-.03	.01	.03	-.04	.02	-.04	.003
7. Infant emotionality							--	.23**	.10**	.28**	.08*	.17**	.15**
8. Child anxious								--	.57**	.52**	.26**	.61**	.52**
9. Child withdrawn									--	.33**	.19**	.37**	.42**
10. Child aggressive										--	.34**	.51**	.47**
11. Child lack of guilt											--	.29**	.31**
12. Child attention problems												--	.57**
13. Child social problems													--

Note: \**p*<.05, \*\**p*<.01.

Table 19 OLS regression results predicting child anxious and withdrawn ( $N=1071$ )

	<u>Anxious</u>			<u>Withdrawn</u>		
	B	SE	$\beta$	B	SE	$\beta$
Step 1						
Mothers' education	-0.209***	0.045	-0.140	-0.067***	0.018	-0.112
Mothers' engagement	-0.038	0.037	-0.031	0.028	0.015	0.056
Child gender [girls]	0.059	0.083	0.021	0.012	0.033	0.011
<b>Model Summary</b>	Adjusted $R^2 = .018$ , $F(3, 1067) = 7.65$ , $p < .001$			Adjusted $R^2 = .016$ , $F(3, 1067) = 5.63$ , $p = .001$		
Step 2						
Mothers' education	-0.173***	0.044	-0.116	-0.062**	0.018	-0.103
Mothers' engagement	-0.024	0.037	-0.020	0.033*	0.015	0.066
Child gender [girls]	0.052	0.081	0.019	0.013	0.033	0.012
Average Involved fathers	0.015	0.122	0.005	0.004	0.050	0.004
Low Involved-Disciplinarians fathers	-0.118	0.132	-0.038	0.034	0.054	0.027
Highly Involved fathers [Uninvolved fathers]	-0.099	0.139	-0.029	-0.042	0.057	-0.030
Emotionality	0.096***	0.013	0.222	0.016**	0.005	0.092
<b>Model Summary</b>	Adjusted $R^2 = .065$ , $F(7, 1063) = 11.60$ , $p < .001$			Adjusted $R^2 = .026$ , $F(7, 1063) = 4.12$ , $p < .001$		
Step 3						
Mothers' education	-0.172***	0.045	-0.115	-0.060**	0.018	-0.101
Mothers' engagement	-0.024	0.037	-0.020	0.033*	0.015	0.067
Child gender [girls]	0.052	0.081	0.019	0.014	0.033	0.012
Average Involved fathers	0.018	0.123	0.006	0.006	0.050	0.005
Low Involved-Disciplinarians fathers	-0.111	0.133	-0.035	0.040	0.054	0.031
Highly Involved fathers [Uninvolved fathers]	-0.095	0.139	-0.028	-0.037	0.057	-0.027
Emotionality	0.077*	0.033	0.178	0.001	0.013	0.007
Average Involved x Emotionality	0.028	0.038	0.043	0.016	0.016	0.062
Low Involved x Emotionality	0.004	0.043	0.004	0.004	0.017	0.010
Highly Involved x Emotionality [Uninvolved x Emotionality]	0.032	0.044	0.033	0.036*	0.108	0.091
<b>Model Summary</b>	Adjusted $R^2 = .063$ , $F(10, 1060) = 8.21$ , $p < .001$			Adjusted $R^2 = .031$ , $F(10, 1060) = 3.42$ , $p < .001$		

Note: \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .



Table 20 OLS regression results predicting child aggressive and lack of guilt (N=1071)

	<u>Aggressive</u>			<u>Lack of Guilt</u>		
	B	SE	$\beta$	B	SE	$\beta$
Step 1						
Mothers' education	-0.282***	0.075	-0.115	-0.085***	0.021	-0.124
Mothers' engagement	-0.089	0.062	-0.044	-0.022	0.017	-0.038
Child gender [girls]	0.008	0.137	0.002	-0.001	0.038	-0.001
<b>Model Summary</b>	Adjusted $R^2 = .012$ , $F(3, 1067) = 5.51$ , $p = .001$			Adjusted $R^2 = .014$ , $F(3, 1067) = 6.16$ , $p < .001$		
Step 2						
Mothers' education	-0.218**	0.073	-0.089	-0.080***	0.021	-0.117
Mothers' engagement	-0.057	0.060	-0.028	-0.019	0.017	-0.033
Child gender [girls]	-0.004	0.132	-0.001	<0.001	0.038	0.000
Average Involved fathers	-0.018	0.200	-0.004	0.040	0.058	0.031
Low Involved-Disciplinarians fathers	-0.073	0.216	-0.014	0.013	0.062	0.009
Highly Involved fathers [Uninvolved fathers]	-0.062	0.227	-0.011	-0.058	0.066	-0.037
Emotionality	0.189	0.021	0.266	0.012*	0.006	0.062
<b>Model Summary</b>	Adjusted $R^2 = .079$ , $F(7, 1063) = 14.11$ , $p < .001$			Adjusted $R^2 = .018$ , $F(7, 1063) = 3.75$ , $p = .001$		
Step 3						
Mothers' education	-0.216**	0.073	-0.088	-0.079***	0.021	-0.115
Mothers' engagement	-0.058	0.060	-0.029	-0.018	0.017	-0.031
Child gender [girls]	-0.004	0.132	-0.001	0.001	0.038	0.001
Average Involved fathers	-0.015	0.200	-0.003	0.042	0.058	0.033
Low Involved-Disciplinarians fathers	-0.058	0.217	-0.011	0.017	0.062	0.011
Highly Involved fathers [Uninvolved fathers]	-0.053	0.228	-0.009	-0.052	0.066	-0.033
Emotionality	0.173**	0.053	0.244	-0.005	0.015	-0.023
Average Involved x Emotionality	0.021	0.062	0.019	0.014	0.018	0.047
Low Involved x Emotionality	-0.028	0.070	-0.018	0.011	0.020	0.026
Highly Involved x Emotionality [Uninvolved x Emotionality]	0.065	0.072	0.040	0.044*	0.021	0.097
<b>Model Summary</b>	Adjusted $R^2 = .078$ , $F(10, 1060) = 10.08$ , $p < .001$			Adjusted $R^2 = .020$ , $F(10, 1060) = 3.17$ , $p = .001$		

Note: \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

Table 21 OLS regression results predicting child attention problems and social problems (N=1071)

	<u>Attention Problems</u>			<u>Social Problems</u>		
	B	SE	$\beta$	B	SE	$\beta$
Step 1						
Mothers' education	-0.173**	0.052	-0.101	-0.170***	0.037	-0.140
Mothers' engagement	-0.140**	0.043	-0.099	0.008	0.030	0.008
Child gender [girls]	0.193*	0.095	0.061	0.063	0.067	0.028
<b>Model Summary</b>	Adjusted $R^2 = .021, F(3, 1067) = 8.61, p < .001$			Adjusted $R^2 = .018, F(3, 1067) = 7.49, p < .001$		
Step 2						
Mothers' education	-0.148**	0.052	-0.086	-0.152***	0.037	-0.125
Mothers' engagement	-0.125**	0.043	-0.088	0.017	0.030	0.017
Child gender [girls]	0.193*	0.094	0.061	0.061	0.067	0.027
Average Involved fathers	0.233	0.142	0.073	-0.031	0.101	-0.014
Low Involved-Disciplinarians fathers	0.183	0.154	0.051	-0.066	0.109	-0.026
Highly Involved fathers	0.039	0.162	0.010	-0.126	0.115	-0.045
[Uninvolved fathers]						
Emotionality	0.077***	0.015	0.155	0.048***	0.011	0.138
<b>Model Summary</b>	Adjusted $R^2 = .045, F(7, 1063) = 8.20, p < .001$			Adjusted $R^2 = .034, F(7, 1063) = 6.46, p < .001$		
Step 3						
Mothers' education	-0.146**	0.052	-0.085	-0.152***	0.037	-0.126
Mothers' engagement	-0.122**	0.043	-0.086	0.017	0.030	0.017
Child gender [girls]	0.195*	0.094	0.062	0.061	0.067	0.028
Average Involved fathers	0.238	0.142	0.074	-0.034	0.101	-0.015
Low Involved-Disciplinarians fathers	0.185	0.154	0.051	-0.069	0.109	-0.027
Highly Involved fathers	0.046	0.162	0.012	-0.127	0.115	-0.045
[Uninvolved fathers]						
Emotionality	0.038*	0.038	0.076	0.061*	0.027	0.173
Average Involved x Emotionality	0.041	0.044	0.055	-0.022	0.031	-0.041
Low Involved x Emotionality	0.051	0.050	0.048	-0.005	0.035	-0.007
Highly Involved x Emotionality	0.052	0.051	0.046	-0.008	0.036	-0.010
[Uninvolved x Emotionality]						
<b>Model Summary</b>	Adjusted $R^2 = .044, F(10, 1060) = 5.87, p < .001$			Adjusted $R^2 = .032, F(10, 1060) = 4.58, p < .001$		

Note: \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

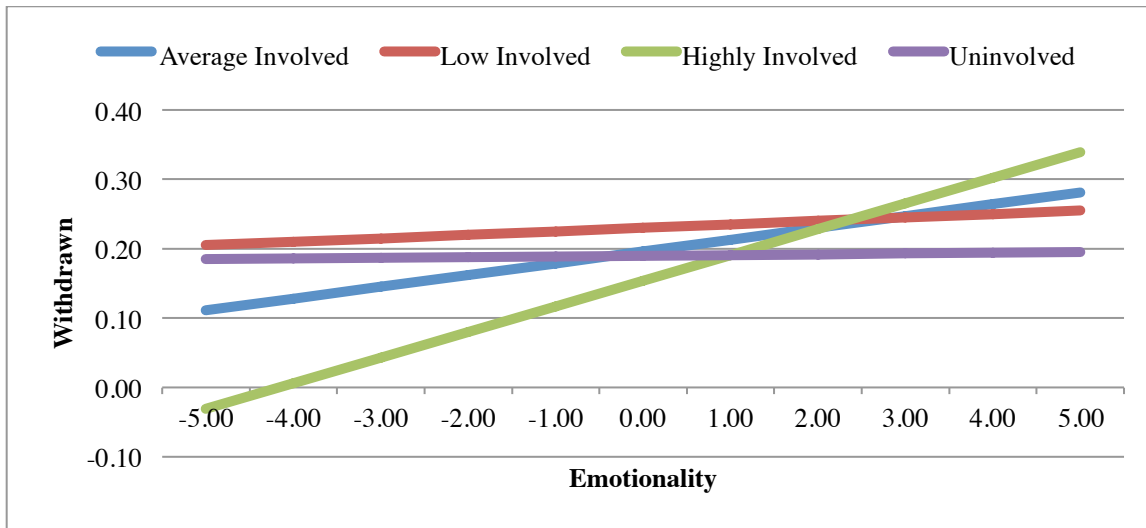


Figure 3 Interaction plot: Predicting children's withdrawal from infant emotionality by father groups

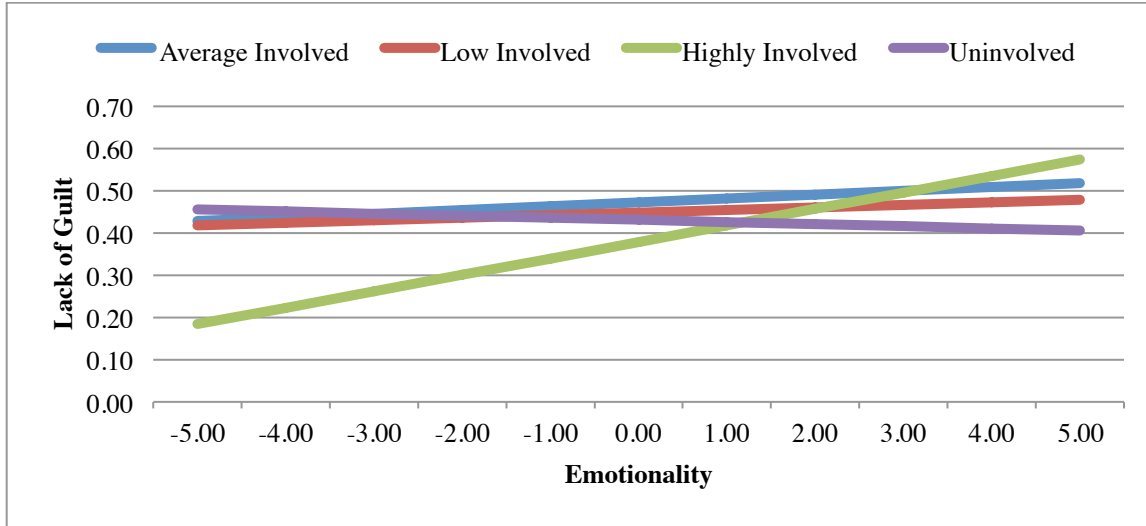


Figure 4 Interaction plot: Predicting children’s lack of guilt from infant emotionality by father groups