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Young Children's Self-Concepts: Associations with Child Temperament, Mothers' and Fathers' Parenting, and Triadic Family Interaction

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Abstract

This study explored how children's self-concepts were related to child temperament, dyadic parenting behavior, and triadic family interaction. At age 3, child temperament, mothers' and fathers' parenting behavior, and triadic (mother, father, and child) family interaction were observed in the homes of fifty families. At age 4, children's self-concepts were assessed using the Children's Self-View Questionnaire (Eder, 1990). Analyses revealed that temperamental proneness-to-distress and triadic family interaction made independent contributions to children's self-reported Timidity and Agreeableness. In contrast, dyadic parenting behavior moderated the associations between child temperament and children's self-reported Timidity and Agreeableness, such that temperament was only associated with children's self-concepts when mothers and fathers engaged in particular parenting behaviors. Results suggest both direct and interactive influences of family dynamics and child characteristics on children's self-concept development.

Beginning in early childhood, children start the lifelong process of self-discovery. The emergence of a coherent and positive self-concept is undeniably a critical aspect of social and emotional development (Harter, 2006). Children who come to know and understand themselves acquire an important guide for their behavior and social relationships. As such,

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children's early self-perceptions provide a glimpse of personality development in the making (Eder, 1990).

Nevertheless, we still know little about the factors that might be responsible for *individual differences* in early self-concept development, particularly those factors that are associated with children's perceptions of their own personalities (Eder & Mangelsdorf, 1997). Theoretical accounts posit that the self-concept develops as a function of numerous intrapersonal and social influences – with many emphasizing the role of children's emotional characteristics and parent-child interactions (Thompson, 1998). In general, however, these hypotheses have yet to be validated with empirical work. It remains to be seen whether factors such as temperament, parenting, and whole family interaction are related to the ways in which young children describe themselves, despite a vast body of research implicating each of these variables as influences on many other aspects of social and personality development (e.g., Lindahl & Malik, 1999; Maccoby & Martin, 1983; Sanson, Hemphill, & Smart, 2004).

Despite substantial interest in self-concept *development*, less work has attempted to link children's self-concepts to individual characteristics of the child, or aspects of their social environment. Conceptually, the developing self is influenced by a wide variety of broad, contextual factors, including gender (see Ashmore, 1990) and the culture in which one resides (see Markus & Kitayama, 1991). But it also develops in the context of more proximal social environments, including friendship (e.g., Tarrant, MacKenzie, & Hewitt, 2006) and peer groups (e.g., Buhs, 2005; Zhenhong, Dejun, & Ping, 2004). Clearly, the child's sense of self is likely to be multiply determined by a vast array of social interactions and life experiences, as well as the cognitive processes by which these experiences are interpreted. Still, developmentalists have long privileged the role of the family in children's emergent personality, and it is family relationships that have received the most attention as possible correlates of early self-concepts (Thompson & Goodvin, 2005). As such, it is striking that empirical work to date has not yet examined the associations between family relationships and young children's self-reported personality.

The present study examines the correlates of children's self-concepts primarily through the lens of family systems and ecological perspectives. A family systems perspective (e.g., Minuchin, 1985) focuses attention on the unique role of each individual family member and family relationship (mother-child, father-child, mother-father-child triad) in self-concept development, and an ecological perspective (e.g., Bronfenbrenner, 1979) emphasizes the role of family as well as children's own characteristics on self-concept development. Belsky's (1984) process model was similarly influential in highlighting the interrelations among family subsystems, and how these relations may affect development. Finally, this work also borrows from the notion of "goodness-of-fit" (see Thomas & Chess, 1977), which argues that temperamental characteristics develop differently as a function of the child's social environment, and emphasizes the importance of examining interactive effects of temperament and parenting (Sanson et al., 2004). Children's self-views may reflect both early emotional tendencies and the ways in which parents differentially respond to this emotion. All of these theoretical frameworks suggest that children's self-concepts are likely associated with child, parent, and family characteristics. Although we cannot yet establish

the developmental mechanisms underlying this aspect of development, a logical starting point is documenting the relations of these child and family elements to children's early self-concepts. Accordingly, this study is among the first to examine how observed child temperament, mothers' and fathers' parenting, and triadic family interaction at age 3 are related to children's perceptions of their own personalities at age 4.

Conceptual and Measurement Issues in the Study of Children's Self-Concepts

One barrier to the study of children's self-concepts has involved the various ways in which this construct has been conceptualized. An important and well-developed distinction in terminology in this field is that between self-esteem and other aspects of the self-concept (Damon & Hart, 1982; Harter, 2006). Self-esteem refers to the evaluative aspects of the self-concept (i.e., how good or bad children are in a particular domain; Harter, 1998), and this construct has received the most attention in the self-development literature (see Butler & Gasson, 2005). In contrast, other derivatives of the self-concept, such as self-perceptions (e.g., Measelle, Ablow, Cowan, & Cowan 1998; Measelle, John, Ablow, Cowan, & Cowan, 2005) and self-understanding (e.g., Hart & Damon, 1986), refer to less valenced evaluations of the self -- i.e., how children view themselves, largely independent of their subjective evaluations. Given that self-perceptions in early childhood may play a prominent role in shaping subsequent self-esteem, their development is an important (and under-represented) area of investigation in self-concept research (Damon & Hart, 1982; Hart & Damon, 1986; Wylie, 1989).

In addition to this conceptual distinction, the study of young children's self-concepts has been characterized by methodological challenges. The most prominent problem stems from the fact that young children often lack the cognitive and linguistic ability to accurately and coherently describe certain aspects of their self-concepts (see Eder & Mangelsdorf, 1997; Thompson & Goodvin, 2005). Early research demonstrated that when children were asked to complete open-ended statements about themselves, they failed to describe themselves in terms of psychological traits (e.g., Keller, Ford, & Meacham, 1978). Consequently, some concluded that children younger than 7 or 8 years old either did not possess an integrated understanding of their psychological selves, or were unable to express this psychological self-concept in a meaningful way (e.g., Hart & Damon, 1986; Harter, 1998; Ruble & Rholes, 1981).

More recently, conducting self-concept research with young children has become increasingly feasible due to advances in measurement (e.g., Davis-Kean & Sandler, 2001; Marsh, Debus, & Bornholt, 2004) represented by assessments such as the Children's Self-View Questionnaire (Eder, 1990) and the Berkeley Puppet Interview (Measelle et al., 1998). These measures have adopted forced-choice methodologies, in which children are asked to indicate "which one is like you?" to a pair of competing statements made by puppets. By providing evidence that children as young as 4–5 years old can form coherent representations of their own psychological (e.g., social, emotional, and personality) characteristics (see Marsh et al., 2004, for a review), these measures have revised the

timetable for conducting self-concept research. Moreover, with the inclusion of items designed to assess children's perceptions of their own *personality* characteristics, these measures have expanded the domain of inquiry in self-concept research with young children (Brown, Mangelsdorf, Agathen, & Ho, 2008; Measelle et al., 2005), and provided an opportunity to examine the emergence of early individual differences in self-reported personality.

The present study builds upon these methodological advances in self-concept measurement (e.g., Eder, 1990; Measelle et al., 1998), and conceptualizes the self-concept as children's perceptions of their personality. This work also extends the study of personality development (see Brown et al., 2008; Measelle et al., 2005; Shiner, 2000) by being among the first to examine individual differences in, and correlates of, young children's personality self-reports. We were particularly interested in whether young children's self-concepts were related to 1) child temperament, 2) mothers' and fathers' parenting behavior, and/or 3) triadic family interaction patterns. Each of these variables has been empirically linked to other aspects of children's self-concepts and/or theoretically linked to children's self-reported personality in unique and important ways, and each will be discussed in turn.

Child Temperament and Children's Self-Concepts

Temperamental characteristics are considered relatively stable, early-emerging individual differences in the expression and regulation of emotion (Rothbart & Bates, 1998). These individual differences may be an important influence on the self, given that emotion is presumed to be at the core of self-concept development (Eder & Mangelsdorf, 1997). Conceptualizing the self-concept as an inherently affective construct has led some to speculate that temperament is a key contributor to self-concept and personality development in early childhood and beyond (Goldsmith, Buss, Plomin, & Rothbart, 1987; Thompson, 2006). Although past research suggests that temperament is a substrate of child personality (e.g., Rothbart & Bates, 1998), the degree to which temperament is related to children's self-understanding -- and how this self-understanding is articulated -- is less well-known. A necessary first step is establishing that early individual differences in emotional expressiveness are actually reflected in the ways that children describe their own personalities.

There is reason to believe that the preschool period might be a critical age for examining these emotional underpinnings of the self-concept. Eder & Mangelsdorf (1997) proposed that 3–4-year-olds develop dispositional self-concepts that serve the purpose of helping children organize emotions. They also noted that by age 4, children demonstrate many individual differences in temperament and child personality, but it remains unclear whether these differences correspond to differences in their self-reported personalities. In theory, children's self-concepts have an emotional undertone, and different phenomenological experiences (i.e., a lower threshold for distress, a greater tendency to approach novel situations, etc.) are integrated into the child's understanding of their place in the world. If this is true, we might expect observed differences in child temperament to be reflected in children's self-concepts by age 4. Such a finding would lend credence to claims that the self-concept may in part be a reflection of children's early emotional characteristics.

Parenting and Children's Self-Concepts

A prominent notion in theory and research on self-development is that the early self-concept is formed in the context of children's intimate relationships with caregivers (Harter, 1998, 2006; Miller & Mangelsdorf, 2005; Thompson, 1998, 2006). This emphasis on the caregiver as integral to the self-concept has been best delineated by attachment theory. Bowlby (1969) claimed that a working model of the self is constructed via early interactions between caregivers and their infants. Through these interactions, children develop an "internal working model" that guides self-understanding and subsequent expectations for close relationships (e.g., Bretherton, 1991; Sroufe, 1990). Prior research has indeed linked attachment security to a more positive self-view in 5–6 year-old children (e.g., Cassidy, 1988; Verschueren, Marcoen, & Schoefs, 1996). Likewise, past research has found concurrent associations between attachment and self-esteem in the early school years (Clark & Symons, 2000; Easterbrooks & Abeles, 2000).

Although this work suggests that the parent-child *relationship* is an integral context for self-concept formation, less research has linked specific patterns of parenting *behavior* to specific dimensions of the self-concept. Moreover, the limited body of research that does exist has been primarily concerned with documenting the influence of parenting behavior on children's global self-esteem (Harter, 1998) in both early childhood and adolescence (e.g., Lamborn, Mounts, Steinberg, & Dornbusch, 1991; Nelson, 1984; Rosenberg, 1979). The present study extends this work by examining children's perceptions of their own personalities, rather than self-esteem judgments.

Although existing evidence is limited, prior work does suggest links between parenting behavior and children's conceptions of their personalities. For example, some researchers have speculated that these processes begin at an early age, as children internalize parental standards, evaluate whether they have met them, and use these standards to develop a coherent self-representation (Bretherton & Beeghly, 1982; Damon & Hart, 1986; Kochanska, Casey, & Fukumoto, 1995; Stipek, Recchia, & McClintic, 1992). Similarly, Eccles and colleagues (Eccles et al., 1983; Eccles & Wigfield, 2000) have proposed that self-perceptions are rooted primarily in children's expectations for success, and that parents contribute to self-development by being the primary socializers of their children's expectations.

Attachment theory also argues that children who experience parents as emotionally supportive are more likely to construct a working model of the self as someone competent, likeable, and worthy of support (e.g., Sroufe & Fleeson, 1986). Indeed, parental sensitivity and emotional support have been proposed as possible causal antecedents for children's positive self-understanding (Eder & Mangelsdorf, 1997; Thompson, 1998). The self-concepts of preschoolers are also still vulnerable to the demeaning judgments of their parents (Thompson & Goodvin, 2005), such that parents' inappropriate expectations, belittling judgments, or impatience may contribute to children's more negative self-concepts (Kelley, Brownell, & Campbell, 2000). Thus, we might expect both positive (i.e., supportive presence, structure, positive affect) and negative (i.e., hostility, intrusiveness, negative

affect) aspects of parents' behavior to be reflected in how young children perceive their personalities.

A Family Systems Perspective on Self-Concept Development

A family systems perspective on self-concept development suggests that it is essential to examine the attributes and behaviors of multiple family members, and to explore how specific family contexts may operate differentially (e.g., Cox & Paley, 1997; Minuchin, 1985). Unfortunately, studies examining family influences on the self-concept have focused almost exclusively on *mothers'* parenting behavior (see Harter, 1998, 2006). More recently, however, researchers have begun to acknowledge that fathers' and mothers' parenting roles are qualitatively different, and fathers may uniquely shape child development (e.g., Lamb, 1997). Consistent with these ideas, some limited research indicates that father involvement in children's lives is positively related to children's self-esteem, and that mothers and fathers may have differential effects on the self-concepts of school-aged and adolescent children (e.g., Doyle, Markiewicz, Brendgen, Lieberman, & Voss, 2000; Richards, Gitelson, Petersen, & Hurtig, 1991). Whether such results translate to the preschool years, and to children's self-perceptions of personality, remains an important question.

The family systems perspective has also prompted researchers to move beyond the dyad to consider family-level behaviors as potential influences on children's social development. In particular, recent evidence underscores the role that triadic family interaction patterns (mother, father, and child) exert on child development, beyond what can be gleaned from studying mother-child and/or father-child dyads in isolation. For example, greater hostility and lower harmony during triadic interactions with infants has been linked to greater aggression in preschoolers (McHale & Rasmussen, 1998). Similarly, another investigation found that less supportive and more undermining coparenting in families of 3-year-olds was associated with fewer externalizing behavior problems at age 4 (Schoppe, Mangelsdorf, & Frosch, 2001). Furthermore, Miller and Mangelsdorf (2005) have argued that social configurations involving *multiple* people are largely responsible for children's self-construction. It thus stands to reason that family interaction patterns may be reflected in children's self-concepts, such that more cooperative and cohesive functioning at this level might be related to children's more positive views of their personalities. Examining family episodes that include the child and *both* parents serves as a logical starting point for the exploration of this hypothesis.

Interactive Effects of Temperament and Family Context

Although these factors may work independently, it is also possible that temperament and family relationships work in combination to impact the child's developing sense of self. Thompson and Goodvin (2005) noted that the emergence of the self-concept reflects both intrapersonal development from within the child and interpersonal development from relational influences. The inclusion of both child and family variables allows us to examine whether these variables are directly related to self-concept reports, and also whether the associations between child temperament (observed emotional/early personality

characteristics) and children's self-concepts (children's reports of these characteristics) are dependent upon parenting behavior or the quality of family interaction.

Theoretical accounts of self-concept development suggest that it is not just temperament per se, but rather the socialization of temperament, that contributes to the developing self (e.g., Crittenden, 1990; Thompson, 1998; Thompson & Goodvin, 2005). Support for this notion comes from research showing that children who receive negative feedback from parents may inhibit emotional expression, and develop a view of the self that is tied to their view of the world as a critical place (Camras et al., 1988). Other research has concluded that the contingent response of parents to a child's emotional state is a prominent factor in the development of self-awareness (e.g., Malatesta & Wilson, 1988). These findings led Eder and Mangelsdorf (1997) to surmise that parents' reactions to temperamental differences are primarily responsible for the child's developing self. For example, children who receive negative parental feedback for bold behavior may not describe themselves as bold children, and may even integrate this feedback into denigrating views of their personality or lowered self-esteem. In contrast, those who garner parental encouragement may incorporate that early personality characteristic into their sense of self, and perhaps develop a more positive outlook on other aspects of their personality. Thus, the degree to which child temperament is reflected in children's perceptions of their personalities might depend upon the quality of parenting and/or family interaction to which they are exposed.

The Present Study

The present study was designed to enhance our understanding of the correlates of early self-reported personality by examining associations between 4-year-old children's self-reported Timidity and Agreeableness and observed child temperament, mothers' and fathers' parenting, and triadic family interaction one year earlier. We hypothesized that children's temperamental characteristics at age 3 would converge with their self-reported personality at age 4 in conceptually meaningful ways, such that temperamentally bold children might describe themselves as outgoing and friendly, whereas easily distressed children might see themselves as timid and socially uncomfortable. Moreover, we hypothesized that positive dyadic parenting behaviors and triadic family interactions at 3 years of age would be related to children's more positive self-concepts one year later. In particular, we expected parents' positive engagement with their children in both the dyadic and triadic contexts to be related to children's views of themselves as more agreeable and less timid. Conversely, we expected hostility in these contexts to be related to greater child-reported Timidity and lower child-reported Agreeableness. Finally, past research and theory led us to predict that dyadic parenting and/or triadic family interaction could potentially moderate the association between child temperament and children's self-concepts. The inclusion of fathers in this study, and the adoption of a family systems framework, allowed us to explore potential differences in the patterns of direct and interactive associations for a) mothers' vs. fathers' parenting behavior and b) dyadic vs. triadic family interaction. Given the limited scope of previous self-concept research, the investigation of differences between mothers vs. fathers and dyadic vs. triadic interaction was a largely exploratory endeavor.

Method

Participants

Fifty children (25 girls and 25 boys), mothers, and fathers participated in the two phases of this investigation when children were approximately 3 years of age ($M = 3.1$ years, $SD = 23.6$ days), and again when children were approximately 4 years of age ($M = 4.1$ years, $SD = 63.0$ days). Written informed consent was obtained from all parents prior to their participation. Some families were recruited as part of a prior longitudinal study of family interaction, and the remaining families were recruited from birth announcements published in local newspapers. There were no demographic differences between the two sub-samples.

Participants were primarily middle-class families with a mean income range of approximately \$40,000–\$49,000; 93% percent of the families were European American. Sixty-five percent of the fathers and 77% of the mothers had obtained at least a 4-year college degree. Mothers' ages ranged from 23.8 to 48.8 years ($M = 33.7$ years), and fathers' ages ranged from 26.0 to 51.5 years ($M = 35.7$ years). All couples were married and living together, with a mean duration of marriage of 8.5 years (range = 1.8 – 19.5 years, $SD = 3.5$ years).

Procedure

When children were 3 years old, parents were videotaped interacting in the home with their child in a variety of semi-structured episodes designed to evaluate child temperament, dyadic parenting behavior, and triadic (mother, father, child) family interaction. One year later, children completed a videotaped self-concept questionnaire at the laboratory.

Measures at Age 3

Child temperament assessment—Child temperament was assessed using the Laboratory Temperament Assessment Battery (Lab-TAB; Goldsmith & Reilly, 1995). The Lab-TAB is an observational assessment of child temperament that consists of a battery of episodes, each of which is designed to elicit and assess individual differences in emotional reactivity. The measure has been used in a wide range of studies of emotional development and parent-child interaction (e.g., Boyce et al., 2006; Kochanska, 2001), and has shown strong validity and reliability (see Goldsmith & Rothbart, 1991; Goldsmith et al., 1999). Each of the measure's episodes is designed to assess individual differences in emotional reactivity to situations that elicit a range of temperamental qualities (i.e., positive affect, fear, distress, persistence).

Children were videotaped in four episodes of the home version of the preschool Lab-TAB. Episodes were completed in the following standard order with brief breaks between tasks. 1) "Popping Bubbles" -- the experimenter shot a bubble-gun and asked the child to pop as many bubbles as possible with their hands, feet, and elbows; 2) "Jumping Spider" -- the experimenter showed the child a realistic spider toy that jumps at the child, and then asked the child to touch and pick up the spider; 3) "Attractive Toy in a Transparent Box" -- the experimenter locked an attractive toy in a transparent box, and left the child with a set of useless keys to open the box. After 3.5 minutes, the experimenter returned and explained

that she had mistakenly given the child the wrong keys. The child was then given the correct key to unlock the box and retrieve the toy; 4) “Bead Sorting” -- the experimenter gave the child a container filled with small beads of three different colors, and then asked the child to sort the beads by color into a divided container. Altogether, the episodes lasted between 12 and 15 minutes.

Researchers have adopted both global (e.g., Hayden, Klein, & Durbin, 2005) and microlevel (e.g., Locke & Goldsmith, 2007; Kochanska, 2001) scoring procedures for the Lab-TAB, and the global approach utilized in this study is similar to that of previous investigations (e.g., Essex et al., 2006; Goldsmith, personal communication, 2007). In the present study, two independent coders rated temperamental characteristics on thirteen 5-point global rating scales designed for use in conjunction with the home version of the Preschool Lab-TAB. These global ratings were made after reviewing the child’s behavior across all four episodes. The scales assessed the following temperamental characteristics: activity level, high intensity positive affect, exploration, fear, proneness to sadness, proneness to anger/irritability, frustration, attention, persistence, hyperactivity, impulsivity, cooperation with the experimenter, and shyness. Coders overlapped on 59% of the videotapes. Agreement within one scale point ranged from 94% to 100% ($M = 97\%$). Gamma coefficients were also used to calculate inter-rater reliability because, like Cohen’s kappa, chance agreement is taken into account, yet gamma is more appropriate for use with ordinal rating scale data (Hays, 1981; Liebetrau, 1983). Gammas ranged from 81 to 95 ($M = 87$). Coders conferred to resolve discrepancies, and consensus scores were reached in all cases.

The 13 global rating scales were subjected to principal components analysis with varimax rotation. Three components, all with eigenvalues greater than 1, resulted from this analysis. The first factor, labeled *Boldness* (eigenvalue = 3.19, 24.5% of the variance; $M = 3.57$, $SD = 1.15$) is essentially a positive affect factor with high loadings for high intensity positive affect (.78), activity level (.87), exploration (.82), and shyness (reverse scored; $-.81$). The second factor, labeled *Proneness-to-Distress* (eigenvalue = 1.36, 10.5% of the variance; $M = 1.95$, $SD = .85$) assesses negative affect and was comprised of scales reflecting anger/irritability (.86), frustration (.88), and sadness (.86). The third factor, *Undercontrol*, essentially measured low inhibitory control, or the degree to which the child is impulsive. Although this factor did account for a significant portion of the variance in temperament, only Boldness and Proneness-to-Distress were hypothesized to show significant associations with the self-concept dimensions used in this study. The dimensions of boldness and proneness-to-distress converge with constructs that are commonly used to characterize children of this age. Indeed, boldness and proneness-to-distress map closely onto temperamental dimensions (namely, boldness and anger proneness) that have been identified by Goldsmith and colleagues in part based on work with the Lab-Tab (Goldsmith, Lemery, Aksan, & Buss, 2000). These dimensions are also in line with the widely used Surgency/Extraversion and Negative Affectivity factors identified by Rothbart and colleagues based on caregiver reports of child temperament (e.g., Rothbart, Ahadi, Hershey, & Fisher, 2001).

The undercontrol dimension, although often linked to outcomes such as externalizing behavior problems (Rothbart et al., 2001), does not map clearly onto our self-concept dimensions of interest. The behaviors that characterize undercontrolled children are not

generally assessed by the CSVQ. Indeed, follow-up analyses confirmed that Undercontrol was unrelated to children's self-concepts in both correlational and moderational analyses. Thus, only Boldness and Proneness-to-Distress will be discussed in this paper. These two variables were created by averaging the scores for the rating scales that loaded onto each factor.

Dyadic parenting behavior assessment—Each parent interacted with his or her child for 10 minutes during a puzzle task chosen to be too difficult for the child to complete independently. Dyads were instructed to “work together to assemble this puzzle.” To minimize effects of order or interest in the puzzles, we counterbalanced the presentation of puzzles and which parent played first. Although some dyads took longer than 10 min to complete the puzzle, only the first 10 min were coded to be consistent across dyads. Using 7-point coding scales adapted from Egeland and Sroufe (1983) and Sroufe, Jacobvitz, Mangelsdorf, DeAngelo, and Ward (1985), two trained research assistants coded the parent – child puzzle episodes for a variety of dimensions of parental behavior. Coders overlapped on 57% of the videotapes; gamma coefficients ranged from .82 to .93 ($M = .90$), and interrater agreement within one scale point ranged from 83% to 96% ($M = 93\%$). Coders conferred to resolve discrepancies and to reach consensus scores for each parent.

Based on conceptual grounds and a pattern of high intercorrelations, the parenting dimensions were combined to form two composite dimensions for both mothers and fathers. *Positive Engagement* (Mother: $M = 4.69$, $SD = 1.46$; Father: $M = 4.06$, $SD = 1.53$) consisted of the averaged scale scores for structure and limit setting (ability to convey expectations for the child's behavior), supportive presence (warmth and provision of emotional support), quality of instruction (giving instructions that are effective and appropriate for the child's ability level), and confidence (demonstrating a belief that one can work effectively with his/her child). Intercorrelations among these variables ranged from .80 – .95 for mothers, and .78 – .91 for fathers. *Hostility* (Mother: $M = 1.78$, $SD = .79$; Father: $M = 1.92$, $SD = .78$) consisted of the averaged scales of boundary dissolution (failure to communicate guidelines and act as a resource for the child), anger (rejection or hostility directed at the child), and intrusiveness (behavior that denies the child autonomy in the interaction). Intercorrelations among the scales ranged from .23 – .63 for mothers, and .27 – .57 for fathers.

These two factors follow from much past work using the same (or very similar scales) that has identified both positive and negative parenting factors consisting of similar combinations of parenting behaviors (e.g., Frosch & Mangelsdorf, 2001; Woodworth, Belsky, & Crnic, 1996). The positive engagement scale resembles the scaffolding/praise dimension suggested by Katz and Gottman (1997), and parallels numerous other investigations that have formed parenting composites that encompass warmth, emotional support, and appropriate levels of task structure (e.g., NICHD Early Child Care Research Network, 2003, 2006). The hostility dimension is similar to other investigations that have yielded a single factor consisting of anger, negative affect, and intrusive or over-controlling parenting (e.g., Kochanska, Aksan, Penney, & Boldt, 2007; Shannon, Tamis-LeMonda, London, & Cabrera, 2002).

Triadic family interaction assessment—Researchers videotaped mother-father-child triads working on a building task together for 10 minutes. Families were asked to “work together to build a playground” out of Lincoln Logs, a popular children’s building toy. As in the dyadic puzzle task, this activity was designed to be too difficult for the child to complete independently. Family interaction dimensions were coded using a variety of scales adapted from Lindahl and Malik (1995) and Cox (1995). Two trained family interaction coders overlapped on 37% of the episodes. Gamma coefficients ranged from 83 to 98 ($M = 94$). Interrater agreement within one scale point ranged from 87% to 100% ($M = 97\%$), and coders met to resolve discrepancies.

Based on conceptual grounds and a pattern of high intercorrelations, family interaction scales were combined to form two composite dimensions. *Family Harmony* consisted of the summed total (after standardizing) of several 4, 5, and 7-point scales ($M = -.05$, $SD = 3.50$): cohesion (sense of observable unity, togetherness, and closeness; 5-point scale; $M = 3.40$, $SD = .93$) sensitivity (how responsive family members were to the needs and demands of the others; 4-point scale; $M = 2.99$, $SD = .52$), positive affect (laughing or smiling together, and showing enthusiasm for each other’s task contributions; 4-point scale; $M = 2.79$, $SD = .61$), and structure and limit setting (how well families developed rules and guidelines for completing the task; 7-point scale; $M = 5.09$, $SD = 1.23$). Intercorrelations among scales ranged from .62 – .74. *Family Discord* was comprised of the average scores for three 4-point coding scales ($M = 1.35$, $SD = .37$): negative affect (expression of anger or hostility toward another family member), intrusiveness (how often family members interrupted or interfered with one another), and detachment (how often one or more family members were isolated from the activity). Intercorrelations among scales ranged from .28 – .44.

Measures at Age 4

Children’s self-concept assessment—Children were brought into the lab to view the videotaped Children’s Self-View Questionnaire (CSVQ; Eder, 1990), a valid and reliable measure of children’s self-concepts (e.g., Eder, 1990; Welch-Ross, Fasig, & Farrar, 1999). For each of the 62 CSVQ items, two puppets make competing statements about their behavior, feelings, or the way that other people behave towards them (e.g., “I am usually happy” vs. “I am not usually very happy”). Children are then asked to choose which of the two puppets’ statements they agree with (i.e., “How about you? Are you usually happy or are you not usually very happy?”). Children took approximately 30–35 minutes to complete the measure, and their answers were recorded by a research assistant after each item. According to CSVQ scoring instructions, each item response received a “1” if the child endorsed a statement that comprised one of the CSVQ factors and a “0” if the child endorsed its competing statement. Thus, overall mean scores represent the mean number of items that children endorsed for each factor. By convention, missing items were assigned a score of 0.5; no participants failed to answer more than two items.

The CSVQ items were created based on work by Tellegen (1985) on adult personality, and are thus intended to measure children’s perceptions of their personalities. The CSVQ factors derived by Brown, Mangelsdorf, Agathen, and Ho (2008), and validated by Brown et al. and Goodvin, Meyer, Thompson, and Hayes (in press), for 4–5 year-old children were used in

this study. These factors were: 1) *Timidity* – the degree to which a child describes him or herself as shy and/or fearful (i.e., “I don’t like to climb up on things that are high”; “When I see something scary on TV, I cover my face”), and 2) *Agreeableness* – how well a child describes him or herself as getting along with friends, peers, parents, and other adults (“People want to be around me”; “I usually do what Mommy or the teacher says”). After examining inter-item correlations in this sample, several slight adjustments were made to the Brown et al. (2008) scales to maximize internal consistency and conceptual clarity. This included dropping one item from the Timidity ($\alpha = .66$; 7 items, $M = 4.21$, $SD = 1.79$) factor (#34: “When I hear lightning and thunder, I would never run to look out the window”). Adjustments to the Agreeableness ($\alpha = .70$; 14 items, $M = 10.61$, $SD = 2.97$) factor consisted of dropping two items (#37: “I am the leader in follow the leader” and #51: “I try hard in school”) in favor of two items that were more strongly associated with the other items on this scale (#30: “I really like myself” and #5: “I like meeting new people”) and also had the advantage of close conceptual ties to the Agreeableness dimension. Internal reliability was adequate, and indeed relatively high for self-report data from young children. The alphas for Timidity and Agreeableness are either comparable to -- or (in some cases) substantially exceed -- those in the limited past research assessing preschoolers’ self-concepts (e.g., Eder, 1990; Measelle et al., 1998). A third factor, Negative Affect, showed relatively low levels of reliability ($\alpha = .49$), and was not associated with any of the child or family variables assessed at age 3. As a result, subsequent analyses focused only on the *Timidity* and *Agreeableness* dimensions.

Results

Two sets of analyses were conducted based on our major research questions. The first examined whether temperament, dyadic parenting behavior, and triadic family interaction at age 3 were directly associated with children’s self-concepts at age 4. The second examined whether child temperament interacted with triadic and/or dyadic family interaction patterns to predict children’s self-concepts. There were no significant associations between any demographic variables (child sex or age, parent age or education, birth order, or family income) and either of the self-concept dimensions.

Main Effect Analyses

Bivariate correlations were first computed to determine the associations between children’s self-concepts and each of the age 3 variables (Table 1). Analyses revealed that temperamental proneness-to-distress and triadic family interaction were associated with both of the child self-concept dimensions. On the contrary, neither mothers’ nor fathers’ individual parenting behavior was directly associated with either dimension of child self-concept. In considering these and subsequent findings, it should be noted that the intercorrelations among scales comprising the family discord and parental hostility factors were modest, which may represent somewhat lower internal consistency relative to the family harmony and positive engagement dimensions.

Although temperamental boldness was not associated with children’s self-concepts, temperamental proneness-to-distress was significantly related to both self-concept

dimensions. Children who were prone to distress at age 3 were more likely to see themselves as timid and less likely to see themselves as agreeable at age 4. Both dimensions of family interaction showed significant associations with children's self-concepts. When families showed higher levels of harmony at age 3, children described themselves as less timid at age 4. Moreover, families who displayed higher levels of discord had children who described themselves as more timid and less agreeable the following year. Although there were a number of significant bivariate correlations, it should be noted that these associations were all modest in size.

We next conducted a series of regression analyses to determine the unique and cumulative predictive value of triadic family interaction and child temperament for children's self-concepts. In order to determine the independent effects of these variables, we included temperamental proneness-to-distress and family interaction in the same block of variables in separate regression equations predicting each self-concept dimension. Family harmony and discord were used in separate equations to avoid multicollinearity, and to examine possible differential associations (above and beyond child temperament) with children's self-concepts¹.

Predicting children's self-reported Timidity—When predicting Timidity, the overall equation that included proneness-to-distress and family harmony explained a significant portion of the variance ($R^2 = 16$, $F = 4.16$, $p < .05$). In addition, proneness-to-distress ($\beta = .23$, $p = .14$) and family harmony ($\beta = -.25$, $p = .10$) were similarly strong independent predictors of child-reported Timidity, although neither variable was a significant predictor in and of itself. The equation that included proneness-to-distress and family discord was also significant ($R^2 = 19$, $F = 5.21$, $p < .01$). Likewise, both variables had relatively similar predictive strength, although family discord ($\beta = .29$, $p < .05$) was significant, whereas proneness-to-distress ($\beta = .25$, $p = .08$) was not. These results suggest that temperamental proneness-to-distress and family interaction made largely independent contributions to individual differences in children's self-reported Timidity.

Predicting children's self-reported Agreeableness—When entered together, temperamental proneness-to-distress and family harmony accounted for 10% of the variance in child Agreeableness ($R^2 = 10$, $F = 2.47$, $p = .10$). However, when controlling for the other variable, neither proneness-to-distress ($\beta = -.23$, $p = .15$) nor family harmony ($\beta = .15$, $p = .33$) were significant predictors. The equation containing proneness-to-distress and family discord was significant ($R^2 = 18$, $F = 4.84$, $p < .05$). Whereas family discord was a significant predictor in this equation ($\beta = -.31$, $p < .05$), temperamental proneness-to-distress did not significantly predict child Agreeableness ($\beta = -.21$, $p = .14$).

¹Further regression analyses revealed that triadic family interaction generally remained a significant predictor of children's self-concepts beyond the variance accounted for by dyadic parenting. Eight separate equations were tested that examined either family harmony or discord as predictors of Timidity and Agreeableness while controlling for mothers' or fathers' parenting (both hostility and positive engagement). In six of these cases, family interaction remained a significant predictor after accounting for parenting ($ps < .05$); in the remaining two, these effects approached significance ($ps < .10$). Furthermore, equations that examined the predictive value of family interaction after controlling for *both* parents' dyadic behavior continued to explain substantial portions of the variance in both self-concept dimensions (magnitude of β s ranged from .33 to .48, ps ranged from .10 to .006).

Regression Analyses Testing for Interactive Effects

Regression analyses were next conducted to determine whether child temperament interacted with dyadic parenting and/or triadic interaction to predict children's self-concepts. In each regression equation, child temperament (the independent variable) and either dyadic parenting or triadic interaction (the possible moderators) were entered on the first step. On the second step, the product of these variables was entered. All variables were first centered using deviation scores to reduce multicollinearity. Plotting and post-hoc probing were completed based on the procedures outlined in Aiken and West (1991), such that "high" and "low" labels on the category (X) axis represent one standard deviation above and below the mean, respectively, of the (temperament) variable represented by the x-axis. There were no significant interactions between child temperament and triadic family interaction predicting children's self-concepts, but there were a number of significant temperament x dyadic parenting interactions.

Mothers' parenting—Results of analyses testing for interactive effects of child temperament and mothers' dyadic parenting behavior are reported in Tables 2 and 3. Consistent with bivariate correlations, these results revealed that mothers' parenting did not itself predict children's self-concepts. Instead, regression analyses indicated that mothers' parenting moderated the link between temperamental boldness and children's self-reported Timidity. Specifically, the interaction between temperamental boldness and mothers' positive engagement was significant (Table 2). Follow-up analyses indicated that temperamental boldness was associated with lower levels of Timidity when mothers were more positively engaged with their children ($t = -2.73, p < .01$), but not when mothers showed lower levels of positive engagement (Figure 1). The interaction between temperamental boldness and mothers' hostility was also a significant predictor of children's self-reported Timidity (Table 3). In particular, high boldness was related to lower levels of Timidity only when mothers showed low levels of parenting hostility ($t = -2.87, p < .01$), but not when mothers showed higher levels of hostility (Figure 2). Interactions between temperament and mothers' parenting were not significant in models predicting children's Agreeableness.

Fathers' parenting—Results of analyses testing for interactive effects of child temperament and fathers' parenting are presented in Tables 4 and 5. Fathers' parenting also did not directly predict children's self-concepts (again consistent with bivariate correlations), but fathers' behavior in the dyadic context moderated the association between temperamental proneness-to-distress and child-reported Agreeableness. Specifically, the interaction between proneness-to-distress and fathers' positive engagement was significant (Table 4). Plotting and further analyses revealed that temperamental proneness-to-distress was related to lower levels of Agreeableness when fathers were low on positive engagement ($t = -3.44, p < .01$), but not when fathers were positively engaged in dyadic parent-child interaction (Figure 3). Similarly, temperamental proneness-to-distress and fathers' hostility also interacted to predict children's reports of Agreeableness (Table 5), such that children who were more prone to distress reported lower levels of Agreeableness only when fathers displayed high hostility ($t = -3.22, p < .01$), but not when fathers showed low levels of

hostility (Figure 4). Interactions between temperament and fathers' parenting were not significant in models predicting children's Timidity.

Discussion

In general, results of this study support prior theoretical assertions that children's self-concepts are related to both children's emotional characteristics and family dynamics (e.g., Thompson, 1998). Findings indicated that child temperament, dyadic parenting, and triadic family interaction at age 3 were all relevant for children's self-concept reports at age 4. Notably, and consistent with family systems theory (Cox & Paley, 1997), this work also paints a more nuanced picture of family correlates of the self-concept, suggesting that dyadic parenting and triadic family interaction may exert interactive and independent effects on children's self-concepts, respectively. Our findings suggest the necessity for more empirical research that uses interactive and transactional models to examine the child, parent, and family-level correlates of the early self-concept.

Direct Effects of Family Interaction and Child Temperament

When considered together, temperamental proneness-to-distress and family interaction were generally direct and independent predictors of children's self-concepts. Children who were judged as more prone to distress at age 3 described themselves as more timid and less agreeable at age 4 than did children who were low on proneness-to-distress. Thus, it seems that children's early emotional tendencies may be integrated into their sense of self at an early age. With respect to Timidity, a child who is easily distressed may come to describe him or herself as unwilling to confront novel and/or challenging situations. The association between proneness-to-distress and Agreeableness is consistent with past research linking temperamental difficulty to low peer competence (e.g., Skarpness & Carson, 1986) and high social withdrawal (e.g., Rubin & Stewart, 1996). In particular, the inability to regulate emotion (as seen in children who are prone to distress) has been identified as a key predictor of poor social adaptation (Rubin, Coplan, Fox, & Calkins, 1995). Thus, the tendency to exhibit negative emotionality may serve as an obstacle to developing new and close relationships for some children. In contrast, temperamental boldness was not directly related to children's self-concepts. Negative affect may elicit clear and frequent social responses that children apply to their self-views (i.e., "you're being naughty/good") in a way that boldness does not. Individual differences in boldness or shyness may be less noticeable and/or invoke less uniform social responses, both of which could inhibit children's ability to label this characteristic and perceive it as a part of themselves.

Triadic family interaction was also uniquely associated with children's self-reported Timidity and Agreeableness. These results indicated that families with more harmonious interactions had children who described themselves as being more adventurous. Alternatively, family triads characterized by high levels of discord were more likely to have children who saw themselves as more fearful and less agreeable. The idea that the child's sense of self is tied to the family is a recurring theme in theories of attachment (e.g., Sroufe, 1990) and self-concept development (e.g., Miller & Mangelsdorf, 2005). The present study provides some degree of contextual specificity by noting that this direct link occurs in the

context of triadic interactions involving the child and *both* parents. Perhaps the degree of communication required at this level of family interaction provides increased opportunities for children to receive direct feedback about their emotions and personality. Or perhaps exposure to parents' joint task negotiation offers a particularly salient model that helps children develop confidence in their own ability to negotiate threatening situations (i.e., Timidity) and social encounters (i.e., Agreeableness). This idea is in line with the emotional security hypothesis (e.g., Davies & Cummings, 1994), which posits that inter-parental functioning (and conflict, in particular) may directly affect the child's sense of felt security. It may well be that these emotions form the basis for children's self-perceived personality. Future work will also need to determine whether effects observed in this study are unique to the mother-father-child triad, or whether other triadic constellations (e.g., mother-sibling-child) could also be directly influential. As such, subsequent investigations should explore the *processes* that link triadic interaction to self-concept development.

Interactive Effects of Parenting and Child Temperament

Analyses examining relations of child temperament and *dyadic* parenting behavior with child self-concept indicated that temperament and parenting interacted to predict children's self-concepts, such that parenting behavior moderated the association between temperament and the self-concept. Essentially, child temperament only seemed to be reflected in the child's sense of self in the presence (or absence) of certain types of parental behavior. Specifically, temperamentally bold children viewed themselves as adventurous only when mothers engaged in positive and supportive parenting behavior. When mothers were less positive and more hostile, bold children and shy children essentially described themselves as equally timid. In general, these results suggest that temperamental boldness is more likely to be reflected in the child's self-concept under certain conditions; namely, when mothers engage in more positive parenting behaviors. One plausible explanation is that sensitive and supportive mothers are allowing their children to behave in ways that reflect the child's innate emotional tendencies. Notably, this means that more positive maternal parenting does not necessarily lead to universally positive self-concepts. Indeed, the highest levels of Timidity were observed among children who lacked temperamental boldness, and had mothers who were rated as being positively engaged and low on hostility. The socialization practices of less sensitive mothers may push children to develop self-views that are independent of their temperamental dispositions. On the contrary, children of sensitive mothers seem to be more "accurate" in describing themselves in ways that converge with their observed temperamental characteristics, regardless of whether or not those characteristics are adaptive. Mothers who encourage their children to freely explore and express their emotions may in turn be encouraging these children to find their own identities (see also Eisenberg, Cumberland, & Spinrad, 1998). Understanding the developmental consequences of this freedom, particularly for temperamentally fearful children, is an important question for future research.

Fathers' parenting behavior in the dyadic context also moderated the association between temperament and the self-concept. These results indicated that children who were temperamentally prone to distress later saw themselves as less agreeable only when fathers were low on positive engagement and high on hostility during father-child interaction. When

fathers were positively engaged -- and low on hostility -- there was no link between children's proneness-to-distress and child-reported Agreeableness. Consistent with past work linking temperament, parenting, and the self-concept (see Thompson & Goodvin, 2005), fathers may play a role in determining the degree to which temperamental reactivity becomes reflected in children's self-views. A child who is easily distressed may very well be uncomfortable in new social situations if fathers engage in more negative and hostile parenting behaviors. On the contrary, paternal warmth and support may serve as a buffer that prevents temperamental proneness-to-distress from spilling over into the child's beliefs about their own social self.

The differential patterns of effects for mothers' and fathers' parenting provide further evidence of the contextual specificity that may be integral to understanding family influences on the self-concept. Furthermore, these results are more easily interpreted in light of relevant research on fatherhood. Mothers' parenting interacted with boldness to predict Timidity. On the contrary, fathers' parenting interacted with proneness-to-distress to predict Agreeableness. Although there is little debate that mothers influence many aspects of social development, the idea that fathering behavior works in conjunction with temperamental proneness-to-distress fits with prior work indicating that father-child interaction plays an especially important role in helping children learn to manage high-intensity emotions (e.g., MacDonald, 1987). Moreover, fathering behavior has been identified as a prominent contributor to children's peer interactions and social competence (see Parke et al., 2002), key components of the Agreeableness self-concept dimension. Future work should continue exploring possible differential mechanisms through which mothers and fathers may contribute to children's self-concepts.

Limitations and Future Research

Conclusions drawn from this research must be considered in light of several limitations. Although this study utilized multiple observational assessments, the sample was relatively small and homogenous. Future replication in larger and/or more diverse samples would be beneficial. Importantly, this was also a correlational study without repeated measures, and is thus not a true longitudinal investigation in the conventional sense. Notably, children's self-concepts were assessed only at a single timepoint due to our particular interest in examining the self-concept at the earliest age at which it can be measured. Because the self-concept has not yet been reliably measured in 3-year-olds, administration of the CSVQ at this age was not appropriate. Nonetheless, subsequent research could benefit from longitudinal investigations that track self-concept development and child, parent, and family characteristics across multiple timepoints. Such future investigations are necessary for understanding the developmental trajectory of children's self-concepts, and the timing of early influences on the self-concept. Without this work, we are left to speculate about causal directions. For example, it may well be that how children think of themselves serves as a sort of self-fulfilling prophecy that impacts their behavior and observed temperamental characteristics. Likewise, early-emerging self-views may well impact parents' responses to their children, such that undesirable conceptions of the self may elicit hostility or discord among family members, whereas more optimistic self-concepts are met with a sense of satisfaction and pleasure that could permeate family interactions.

Similarly, we still know relatively little about the mechanisms and processes underlying individual differences in self-concept development. For example, the interactive effects observed in this study may indicate that parenting changes the degree to which child temperament is reflected in children's self-perceived personality, or that parenting may actually alter children's behavior – which is subsequently reflected in the way they describe themselves. Future work should include assessments of the child's behavior and self-concept across time, with a focus on the ways in which family dynamics and/or child temperament might shape the child's developing self. At this point, interpretations of developmental processes remain largely speculative.

We should also note that this study measured only two major dimensions of children's self-concepts: Timidity and Agreeableness. Nonetheless, the childhood self-concept is certainly multidimensional (e.g., Marsh, Ellis, & Craven, 2002), and other self-concept domains may be of equal importance, and may be shaped via very different processes. Likewise, our self-concept measure provides a differentiated view of the self-concept, but does not tap into children's global self-esteem. A broader self-esteem dimension may possess a different set of child and family correlates than the specific dimensions measured in this study. Expanding our conceptualization of the self-concept may also help to understand the breadth with which parental responses to child temperament are integrated into children's personalities. It may be that feedback contingent on temperamental boldness, for example, is reflected not just in self-perceived timidity but in other aspects of personality or children's global sense of self-worth. It might also be informative to conduct a more fine-grained analysis of parental socialization of temperament as it relates to children's self-perceived personality. This may include assessing aspects of parenting that are more specifically relevant to children's self-concepts. For instance, observing parents in the context of a threatening or novel situation, such as when children must approach a frightening stimulus, might tell us more about which parenting behaviors contribute to children's self-views of timidity. Finally, although the reliability of these self-concept dimensions was greater than much past research with preschool children (e.g., Eder, 1990), internal consistency was still modest. It may be that these dimensions of the self-concept are not yet fully integrated at this age (perhaps due to still-developing cognitive and/or language competency), or that the items comprising these factors tap into psychological constructs that are not completely coherent. Future research should continue to explore the developmental trajectories of multiple aspects of children's self-reported personality.

One of the more intriguing aspects of this research is the contextual differences that were found between dyadic vs. triadic family interaction, and mothers' vs. fathers' parenting behavior. We hope that this will encourage other researchers to examine how family processes may differ in the presence of mother, father, or both parents, and how these differences may contribute to the child's self-understanding. Such work may also be critical for educators and family practitioners concerned with fostering programs, interventions, and strategies that promote positive self-concept development in early childhood. We also hope that the exploration of children's self-concept development could ultimately be extended to include other influential contexts, both within the family (i.e., siblings, extended family), as well as outside the family (i.e., teachers, peer groups). In summary, this work suggests that

young children's emergent self-concepts are associated not only with child temperament, but also with mothers' and fathers' parenting behavior and triadic family interaction patterns. Thus, children's self-views may indeed be socially constructed – and this construction likely starts at a very early age.

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Figure 1.
Associations Between Temperamental Boldness and Children's Timidity as a Function of
Mothers' Positive Engagement

** $p < .01$

Figure 2.

Associations Between Temperamental Boldness and Children's Timidity as a Function of Mothers' Hostility

** $p < .01$

Figure 3.
Associations Between Temperamental Proneness-to-Distress and Children's Agreeableness
as a Function of Fathers' Positive Engagement

** $p < .01$

Figure 4.
Associations Between Temperamental Proneness-to-Distress and Children's Agreeableness
as a Function of Fathers' Hostility

** $p < .01$

Table 1

Correlations Among Child Temperament, Dyadic Parenting, Triadic Family Interaction, and Children's Self-Concepts

	<i>Self-Concept Dimension</i>	
	Timidity	Agreeableness
<i>Temperament</i>		
Proneness-to-Distress	.28*	-.31*
Boldness	-.15	.07
<i>Family Interaction</i>		
Family Harmony	-.33*	.22
Family Discord	.33*	-.32*
<i>Mothers' Parenting</i>		
Mothers' Positive Engagement	.04	.16
Mothers' Hostility	.04	-.26
<i>Fathers' Parenting</i>		
Fathers' Positive Engagement	.01	.21
Fathers' Hostility	.10	-.23

*
 $p < .05$

**
 $p < .01$

Table 2
Predicting Children's Self-Reported Timidity from Temperamental Boldness and Mothers' Positive Engagement

Independent Variable	<i>B</i>	<i>SE B</i>	β	<i>R</i> ²	<i>F</i> Change
Step 1					
Temperamental Boldness	-.16	.26	-.10		
Mothers' Positive Engagement	.02	.23	.01	.01	.24
Step 2					
Temperamental Boldness	-.21	.24	-.13		
Mothers' Positive Engagement	.16	.23	.12		
Temperamental Boldness x Mothers' Positive Engagement	-.41	.17	-.37*	.12*	5.96*

* $p < .05$

Table 3
Predicting Children’s Self-Reported Timidity from Temperamental Boldness and Mothers’ Hostility

Independent Variable	B	SE B	β	R ²	F Change
Step 1					
Temperamental Boldness	-.34	.26	-.22		
Mothers’ Hostility	.26	.37	.12	.04	.92
Step 2					
Temperamental Boldness	-.35	.24	-.22		
Mothers’ Hostility	-.43	.44	-.19		
Temperamental Boldness x					
Mothers’ Hostility	.85	.33	.48*	.14*	6.66*

* $p < .05$

Table 4
Predicting Children's Self-Reported Agreeableness from Temperamental Proneness-to-Distress and Fathers' Positive Engagement

Independent Variable	<i>B</i>	<i>SE B</i>	β	<i>R</i> ²	<i>F</i> Change
Step 1					
Temperamental Proneness-to-Distress	−1.20	.50	−.36*		
Fathers' Positive Engagement	.18	.28	.10	.16*	3.77*
Step 2					
Temperamental Proneness-to-Distress	−.94	.49	−.28		
Fathers' Positive Engagement	.09	.26	.05		
Temperamental Proneness-to-Distress x Fathers' Positive Engagement	.64	.26	.35*	.11*	6.11*

*
 $p < .05$

Table 5
Predicting Children's Self-Reported Agreeableness from Temperamental Proneness-to-Distress and Fathers' Hostility

Independent Variable	<i>B</i>	<i>SE B</i>	β	<i>R</i> ²	<i>F</i> Change
Step 1					
Temperamental Proneness-to-Distress	-.18	.49	-.35*		
Fathers' Hostility	-.62	.56	-.16	.17*	4.24*
Step 2					
Temperamental Proneness-to-Distress	-.98	.48	-.29*		
Fathers' Hostility	-.38	.55	-.10		
Temperamental Proneness-to-Distress x Fathers' Hostility	-1.09	.54	-.29*	.08*	4.11*

*
 $p < .05$