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The Best and Worst of Times: Predictors of New Fathers' Parenting Satisfaction and Stress

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Abstract

This study examined predictors of new fathers' parenting satisfaction and stress using data from 182 fathers in dual-earner couples who were followed across their transition to parenthood. Expectant fathers completed surveys about their personal characteristics (anxiety, belief in maternal essentialism, parenting self-efficacy expectations) and family relationships (confidence in the couple relationship) during the third trimester of pregnancy. At three months postpartum, fathers completed surveys about their family relationships (maternal gatekeeping) and child characteristics (infant negative emotionality, infant gender), as well as their parenting satisfaction and stress. Results of regression analyses indicated that expectant fathers with greater parenting self-efficacy expectations reported less parenting stress and greater satisfaction at three months postpartum. More anxious expectant fathers were at risk of experiencing elevated levels of parenting stress postpartum, as were fathers with lower endorsement of maternal essentialism and infants highly negative in mood. Fathers were more satisfied in their roles as parents when mothers engaged in greater gate-opening behavior, particularly when those fathers expressed less confidence in their couple relationships prior to their child's birth. Results indicate the importance of screening expectant and new fathers for anxiety, strengthening expectant fathers' parenting self-efficacy, and encouraging greater maternal support for engaged fathering.

Keywords

fathers; parenting stress; parenting satisfaction; transition to parenthood

Parenting is multifaceted. Although we often focus on its behavioral components because of their relations with child outcomes (Bornstein, 2015), parenting also involves experiential components characterized and influenced by cognitions and emotions (Bornstein et al., 2018; Crandall et al., 2015). Two important aspects of the parenting experience are parenting satisfaction and parenting stress. Parenting satisfaction reflects feelings of pleasure and

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Declarations

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The authors have no conflicts of interest to declare.

gratification experienced in the parenting role, which motivate parents to engage in positive parenting practices and enable warm, close relationships with children (Bornstein et al., 2012; 2018). Parenting stress reflects an aversive psychological reaction to the demands of parenting (Deater-Deckard, 1998). All parents experience stress, but elevated levels of parenting stress are associated with poorer parenting and child adjustment problems (Deater-Deckard, 2004).

Although there is a rich body of literature on parenting cognitions and emotions for mothers, we know less about the experiential components of parenting for fathers given the longstanding tendency to exclude fathers from developmental and family research (Cabrera et al., 2018). This is problematic given that expectations for fathers' direct involvement in parenting are stronger today than ever before (McGill, 2014), and today's fathers are more directly involved in parenting infants and toddlers than their predecessors (Bianchi et al., 2006). Moreover, expectant and new fathers are incorporating nurturing father ideals into their identifies as fathers (Schoppe-Sullivan et al., in press), making their experiences in parenting not only relevant for their children's development but also for their mental health and wellbeing.

What we do know about fathers' parenting cognitions suggests that fathers' parenting stress and satisfaction matter for children's development just as they do for mothers. For example, higher fathers' parenting stress predicted lower scores on children's language and cognitive functioning at 3 years of age (Harewood et al., 2017). Additionally, fathers' lower parenting satisfaction was associated with more child behavior problems (Salari et al., 2014). Our goal was to use Cabrera et al.'s (2014) expanded model of fathering as a guide to examine predictors of fathers' parenting satisfaction and stress. We focused on first-time fathers, because the transition to parenthood is a time with great potential for both joy and concern, and on the experiences of new fathers in dual-earner families, as these fathers face elevated expectations for active involvement in childrearing, which could foster both satisfaction and stress.

Cabrera et al.'s (2014) expanded model of fathering is the most comprehensive theoretical model specific to fathering and father-child relationships currently in existence. It is grounded in Bronfenbrenner's bioecological theory (Bronfenbrenner & Morris, 2006) and Belsky's (1984) process model of parenting. Thus, Cabrera et al.'s model attempts to identify numerous influences on fathering behavior, including fathers' personal characteristics, family relationships, and child characteristics. In this investigation, we considered predictors of new fathers' parenting satisfaction and stress from each of these domains.

Fathers' Personal Characteristics

Fathers' anxiety.

Almost all first-time parents experience some anxiety as the transition to parenthood approaches (Don et al., 2014). This anxiety is typically low and sub-clinical. Fathers' vulnerability to distress during pregnancy is often related to fear of performance failure related to work and sex (Morse et al., 2000). For most parents, anxiety decreases

significantly after the birth of their child, although it persists for about 10% of parents (Don et al., 2014).

The transition to parenthood brings many unknowns. For those with anxious tendencies, ambiguous and unfamiliar situations are especially stressful (Hirshfeld-Becker et al., 2004). Elevated anxiety is a risk factor for depression among first-time fathers (Vismara et al., 2016), and new fathers who perceive a weaker sense of control over the transition to parenthood report higher levels of depression and anxiety symptoms, even after 14 months postpartum (Keeton et al., 2008). Therefore, more anxious fathers may be especially likely to experience parenting as more stressful and less satisfying relative to less anxious fathers.

Maternal essentialism.

New fathers' experiences of satisfaction and stress in parenting may be influenced by their pre-existing beliefs about parent and gender roles. Gender-role beliefs determine what an individual views as appropriate tasks and activities, and thus can affect the behaviors in which parents engage (McHale & Huston, 1984; Bulanda, 2004). Furthermore, gender-role beliefs may influence the amount of parenting satisfaction and stress parents experience when engaging in certain activities with their children. For example, fathers who hold more traditional beliefs regarding parent and gender roles may experience lower parental satisfaction given that they believe that childcare is not their primary responsibility. This notion is supported by Renk et al. (2003), who showed that fathers' parental satisfaction for child-related activities was significantly higher when fathers had a higher level of femininity. An analogous pattern has emerged for parental stress, as Kim and Kang (2011) found that parents who held more traditional gender role beliefs experienced more parenting stress.

In the current study we focused on one aspect of fathers' gender-role beliefs— maternal essentialism—which reflects the belief that mothers have a natural, biologically-based advantage over fathers in parenting children (Liss et al., 2013). Prior research suggests that maternal essentialism may be a more sensitive indicator of traditional gender-role beliefs in the parenting realm than more general measures (Berrigan et al., 2020). Based on research reviewed above, we hypothesized that fathers who endorsed greater maternal essentialism would experience lower parenting satisfaction and higher parenting stress.

Parenting self-efficacy expectations.

Fathers' parenting satisfaction and stress may also be related to their parenting self-efficacy. According to Bandura (1977), self-efficacy is an individual's appraisal of their capacity to accomplish a certain task. Parenting self-efficacy is a parent's appraisal of their competence in parenting (Coleman & Karraker, 2003; Jones & Prinz, 2005). There is strong evidence that parenting self-efficacy has a positive association with actual parental competence (Jones & Prinz, 2005; Schuengel & Oosterman, 2019). Given this positive association, it makes sense that parenting self-efficacy would also be associated with parental stress and satisfaction. Indeed, Gross et al. (1995) and Scheel and Rieckmann (1998) reported that lower parenting stress was associated with higher parenting self-efficacy, and Coleman and Karraker (2000) and Laws and Millward (2001) found that higher parenting satisfaction was associated with higher parenting self-efficacy.

Although these studies all demonstrate associations of parenting self-efficacy with parenting satisfaction and stress, the directions of these effects are unclear. It could be that parental stress and satisfaction determine parenting self-efficacy, parenting self-efficacy determines parental stress and satisfaction, or these relations could be transactional (Jones & Prinz, 2005). It may be especially critical to understand the associations of parenting self-efficacy with parental satisfaction and stress for fathers, given that new fathers are at greater risk for lower parenting self-efficacy than new mothers (Elek et al., 2003; Hudson et al., 2001). Thus, in the current study, we included fathers' parenting self-efficacy expectations assessed prenatally as a potential determinant of parenting satisfaction and stress and predicted that expectant fathers' higher parenting self-efficacy expectations would predict greater parental satisfaction and lower parenting stress after the child's birth.

Family Relationships

Couple relationship functioning.

In Cabrera et al.'s (2014) expanded model, family relationships are connected to fathering behaviors, including the romantic and/or coparenting aspects of the interparental relationship. Positive marital relationships promote fathers' involvement in childrearing (Galovan et al., 2014; Kwok et al., 2013) and foster a more responsive fathering style (Ponnet et al., 2013; Stroud et al., 2011). Marital relationships also affect fathers' adjustment to parenthood. Rogers and White (1998) reported reciprocal relations between marital happiness and parenting satisfaction for both mothers and fathers. Focusing on the transition to parenthood, Elek et al. (2003) found that fathers' dyadic satisfaction was positively linked to parenting satisfaction at 4 months (but not 12 months) postpartum. A study of families of children with developmental disabilities showed that higher marital quality predicted lower fathers' and mothers' parenting stress even after controlling other contextual factors and child characteristics (Kersh et al., 2006).

Fathers who are confident in maintaining good marital relationships currently and in the long run may be more willing to devote time and effort to family- and child-related activities. Their confidence in marital relationships as well as the support they receive from their partners may promote their adjustment to parenthood. Thus, we hypothesized that expectant fathers with more positive perceptions of their couple relationship in the form of greater confidence in its longevity would experience greater parenting satisfaction and less parenting stress postpartum.

Maternal gatekeeping.

Another important aspect of the interparental relationship is the coparenting relationship. At the transition to parenthood, fathers and mothers are together learning to care for their children and adjusting to their new roles. In this challenging time, fathering and fathers' adjustment may be especially susceptible to the influence of mothers' attitudes and behaviors towards fathers' roles as parents. Maternal gatekeeping, a component of the coparenting relationship (Schoppe-Sullivan & Altenburger, 2019), reflects mothers' encouragement and discouragement of fathers' involvement in childrearing (Schoppe-Sullivan et al., 2008). Greater maternal gate-closing and less maternal gate-opening are

associated with lower father involvement in childrearing (Fagan & Cherson, 2017; Schoppe-Sullivan et al., 2008) and lower paternal parenting quality (Altenburger et al., 2018).

Moreover, the encouragement and discouragement fathers receive from mothers may also shape fathers' adjustment as parents by affecting fathers' perceptions of their competence in fathering. Although limited evidence is available in direct support of the association between maternal gatekeeping and fathers' adjustment, many studies support the links between coparenting relationships and fathers' adjustment. Solmeyer and Feinberg (2011) found that low levels of coparenting support and high levels of coparenting undermining are associated with higher levels of parenting stress among fathers. Schoppe-Sullivan et al. (2016) reported that greater perceived supportive coparenting was associated with less parenting stress for new fathers, and with greater parenting satisfaction for fathers with high parenting self-efficacy. Similarly, a study of Singaporean families in the early postpartum period showed that support from partners was associated with both mothers' and fathers' higher parenting satisfaction (Shorey et al., 2020). Thus, we anticipated that new fathers who perceived greater gate-opening and less gate-closing behavior from mothers would be more satisfied and less stressed as parents.

Child Characteristics

Infant negative emotionality.

We hypothesized that fathers whose infants were higher in negative emotionality would experience less parenting satisfaction and greater parenting stress. High negative emotionality in infancy is characteristic of "difficult temperament," and indicated by elevated distress to limitations, sadness, and fear (Putnam et al., 2014). Parents of infants high in negative emotionality experience more parenting stress and less parenting satisfaction (Peterson et al., 2017; Solmeyer & Feinberg, 2011). This may be because infants high in negative emotionality are more challenging to parent effectively. In fact, high negative emotionality in infancy and early childhood can increase nonoptimal parenting interactions (e.g., harsh parenting, coercion, overprotection) over time (Armour et al., 2017; Micalizzi et al., 2017), which erode parents' confidence in their effectiveness, thereby decreasing parents' satisfaction and increasing their stress. Some have suggested that fathering is even more likely to be affected by the child's temperament than mothering because fathers have greater discretion in the extent to which they are involved in parenting (McBride et al., 2002). However, other recent research found no differences in the impact of children's temperaments on mothering and fathering (Peterson et al., 2017; Solmeyer & Feinberg, 2011).

Infant gender.

Previous studies investigating the role of child gender in fathering exhibit conflicting results. Some studies indicate that fathers are more involved with sons than with daughters (Lamb, 2000; Marsiglio, 1991), whereas others suggest no differences in paternal involvement by child gender (Meteyer & Perry-Jenkins, 2010; Sanderson & Thompson, 2002). As for fathers' adjustment, Elek et al. (2003) found that fathers of boys reported higher levels of parenting satisfaction at 12 months postpartum than fathers of girls. In contrast, Salonen

et al. (2010) found no evidence indicating that child gender predicted fathers' parenting satisfaction during the immediate postpartum period. We could not locate prior research linking child gender to parenting stress for fathers. Considering this mixed evidence, we did not advance specific hypotheses regarding the role of infant gender in new fathers' parenting satisfaction and stress.

The Present Study

Guided by Cabrera et al.'s (2014) expanded model of fathering, we used data from a sample of dual-earner fathers followed across their transition to parenthood to examine predictors of new fathers' parenting satisfaction and stress. We anticipated that fathers would experience greater parenting satisfaction and lower parenting stress when, prior to their child's birth, they had lower levels of anxiety, weaker belief in maternal essentialism, stronger expectations regarding their efficacy as parents, and greater confidence in the future of their couple relationship. We further expected that fathers would experience greater parenting satisfaction and less parenting stress when mothers opened the gate more frequently to fathers' involvement in parenting and closed the gate less frequently, and when infants had lower levels of negative emotionality. These hypothesized associations are depicted in Figure 1.

We also examined whether infant gender played a role in new fathers' parenting stress and satisfaction and conducted a set of exploratory analyses to test whether associations between prenatal predictors and postpartum parenting satisfaction and stress were moderated by the postpartum factors of maternal gatekeeping and infant negative affectivity. Cabrera et al.'s (2014) model accommodates the possibility that predictors of fathering may interact, even though little previous research has examined interactions of factors in relation to new fathers' adjustment to parenthood. Finally, we controlled for fathers' levels of education and work hours at three months postpartum because these are important demographic variables in the context of the transition to parenthood (Kluwer, 2010).

Method

Participants and Procedure

As part of a larger longitudinal study, 182 expectant fathers were recruited together with their partners in the third trimester of pregnancy. To meet eligibility criteria, expectant couples had to be married or cohabiting, expecting their first biological child, both 18 years of age or above, fluent in English, working full-time outside the home and planning to return to work after their child's birth. Expectant couples were recruited using a variety of means, primarily via childbirth education classes, newspaper ads, flyers in doctors' offices and clinics, and word-of-mouth. Each partner's informed consent was sought at each study time point, consistent with procedures approved by the sponsoring university's institutional review board.

Fathers, who were the focus of the present study, were 30.20 years old on average (SD = 4.81) when first assessed in the third trimester of pregnancy. These fathers had relatively high levels of education; 65% reported having attained a bachelor's degree or higher level of

education. Their median household income was $78,218. 86% of fathers identified as White, 7% as Black, 3% as Asian, 4% as another race, and 1% as multiracial; additionally, 2% of fathers identified as Hispanic. 86% of fathers reported their relationship status with their child's mother as "married." Of the children born to these fathers, 52.8% were male.

In the current study, we used survey measures completed by fathers during the third trimester of the pregnancy and at three months postpartum, as described below. Of the total initial sample of 182 expectant fathers, only 10 did not provide data on either of our key dependent variables: fathers' parenting stress or satisfaction at 3 months postpartum. Comparisons of these 10 fathers to the remaining 172 on demographic and key predictor variables at the third trimester of pregnancy indicated only one statistically significant difference: expectant fathers who did not contribute data on stress or satisfaction at 3 months postpartum were more likely to identify as non-white than those who did contribute data at 3 months postpartum, $X^2(1) = 5.60$, $p = .018$. Fathers who did not provide 3-month data versus those who did were not different in education, income, marital status, or age, nor did they differ on anxiety, parenting self-efficacy expectations, maternal essentialism, or confidence in the couple relationship at the third trimester of pregnancy. Overall, the percentage of incomplete cases on any variables out of the 182 studied ranged from 0% to 11.53%, indicating a modest amount of missing data, the handling of which is described in the Analysis Plan.

Measures: Third Trimester

Expectant fathers' *anxiety* was assessed using a short form of the Spielberger State–Trait Anxiety Inventory (Marteau & Bekker, 1992) that consisted of six items reflecting the extent to which expectant fathers felt tense, upset, worried, calm, content, and relaxed (1 = *not at all* to 4 = *very much*; ratings for positive feelings were reverse-coded). Cronbach's alpha was .79.

Expectant fathers' *parenting self-efficacy expectations* were measured using a modified version of Teti and Gelfand's (1991) parenting self-efficacy measure. This is a 10-item questionnaire that asks expectant parents to rate their feelings of efficacy in various aspects of childcare (1 = *not good at all*; 4 = *very good*; $\alpha = .84$). Given that the original measure was worded to assess parenting self-efficacy post-birth, we modified the measure to assess expectant parents' parenting self-efficacy expectations prior to their infant's birth. For example, one of the modified questions was, "How good do you think you will be at getting your baby to have fun?" All modified items are available in the online supplement to Berrigan et al. (2020).

Expectant fathers' belief in *maternal essentialism*, the belief that mothers are innately better caregivers than fathers, was assessed using three items from the Survey of First-Time Mothers (Beitel & Parke, 1998) and rated from 1 = *disagree strongly* to 5 = *agree strongly*. One example is, "Mothers are naturally more sensitive to a baby's feelings than fathers" ($\alpha = .84$).

In the third trimester, expectant fathers responded to 4 of the original 10 items from the Confidence Scale (Stanley et al., 1994) to measure their *confidence in the couple*

relationship (e.g., "I feel good about our prospects to make this relationship work for a lifetime"). Four representative items were selected to reduce participant burden. Expectant fathers rated these items on a 7-point Likert scale from 1 = *strongly disagree* to 7 = *strongly agree*. Scores were averaged, with higher scores indicating stronger confidence (α = .82).

Measures: 3 Months Postpartum

Fathers' parenting satisfaction was assessed using the 24-item Motherhood/Fatherhood Satisfaction/Meaning Scale (Pistrang, 1984). This questionnaire included items such as, "My baby makes me feel useful," with responses ranging from 1 = *never* to 5 = *very often* (α = .92).

Fathers' parenting stress was assessed using five items from the Fragile Families and Child Wellbeing Study (Abidin, 1995; Filippone & Knab, 2005). Mothers and fathers responded to items such as "Being a parent is harder than I thought it would be" on a scale of 1 = *strongly agree* to 4 = *strongly disagree* (α = .67). Responses were reverse scored so that a higher score indicated greater parenting stress.

Maternal gate-opening and gate-closing behaviors were assessed using fathers' reports on two sets of six items from the Parental Regulation Inventory (Lee et al., 2019; Van Egeren, 2000). For maternal gate-closing behaviors, fathers reported how often mothers engaged in discouraging behaviors when fathers did something with children that mothers disagreed with (e.g., "Tell you what you did wrong by 'talking through' the baby", "Criticize you"). The rating scale for these items ranged from 1 = *never* to 6 = *every time* (α = .83). For maternal gate-opening behaviors, fathers reported how often mothers encouraged and facilitated them to get involved in childrearing and with their children (e.g., "Tell you how happy you make your baby", "Ask for your opinion") on a 6-point Likert scale from 1 = *never* to 6 = *several times a day* (α = .85).

Infant negative emotionality was reported by fathers using the Revised Infant Behavior Questionnaire—Very Short Form (Rothbart & Gartstein, 2000) at three months postpartum. Fathers rated the frequency with which infants displayed behaviors indicating negative affect over the past week on an ordinal scale from 1 = *the behavior was never observed* to 7 = the behavior was frequently observed. Twelve items were averaged to yield a total infant negative emotionality score (α = .82). One example of these items was "When tired, how often did your baby show distress?"

Infant gender was reported by fathers after the child's birth and was coded as 1 = male; 0 = female.

Fathers' education, assessed on an ordinal scale (1 = *less than high school*; 8 = *doctorate or equivalent*), and fathers' work hours (1 = *0–10 hours*; 6 = *over 50 hours*), also assessed on an ordinal scale, were included as covariates in analyses.

Analysis Plan

To understand risk and protective factors related to new fathers' adjustment to parenthood, we performed independent multivariate regression analyses on (1) fathers' parenting

satisfaction and (2) fathers' parenting stress. To examine the associations of fathers' personal characteristics, family relationships, and child characteristics with fathers' postpartum adjustment, we computed multivariate regression models (i) without any interaction terms and (ii) including significant interaction terms between third-trimester predictor variables and moderators measured at three months postpartum (i.e., maternal gatekeeping, child characteristics) identified through exploratory analyses.

When we observed a statistically significant moderation effect, we conducted post-hoc analysis using an interaction plot. SPSS 25 was used for data cleaning, and STATA 14.2 was used for data analysis. To handle missing data, multiple imputation (10 imputations) was used. Fathers' education, work hours, anxiety, maternal essentialism, parenting self-efficacy expectations, confidence in the couple relationship, maternal gate closing and gate opening, infant negative emotionality, infant gender, fathers' parenting satisfaction and fathers' parenting stress were used for multiple imputation. Multiple imputation is considered a best practice for handling missing data in family and child development research (Enders, 2013; Johnson & Young, 2011), because it yields more accurate estimates and preserves statistical power when compared to single imputation and listwise deletion approaches.

Results

The descriptive statistics and intercorrelations among key variables are presented in Table 1. Fathers' parenting satisfaction and parenting stress were modestly negatively correlated ($r = -.20$, $p < .001$). With regards to associations with fathers' parenting satisfaction, fathers' self-efficacy expectations before childbirth ($r = .33$, $p < .001$), maternal gate-opening behaviors after childbirth ($r = .31$, $p < .001$), and fathers' confidence about the couple relationship before childbirth ($r = .10$, $p < .01$) were positively correlated with fathers' parenting satisfaction. However, infant negative emotionality ($r = -.14$, $p < .001$) and fathers' education ($r = -.28$, $p < .001$) were negatively correlated with fathers' parenting satisfaction. In terms of associations with fathers' parenting stress, fathers' self-efficacy expectations ($r = -.31$, $p < .001$), maternal gate-opening behaviors ($r = -.14$, $p < .001$), and fathers' confidence about their couple relationship before childbirth ($r = -.21$, $p < .001$) were negatively correlated with fathers' parenting stress at three months postpartum. However, fathers' anxiety ($r = .29$, $p < .001$), maternal essentialism ($r = .24$, $p < .001$), maternal gate-closing behaviors ($r = .23$, $p < .001$), infant negative emotionality ($r = .42$, $p < .001$), and fathers' education ($r = .20$, $p < .001$) were positively correlated with fathers' parenting stress. Fathers' parenting satisfaction did not differ by infant gender, $t(167) = 1.06$, $p = .292$ ($M = 3.65$, $SD = .07$ for girls; $M = 3.55$, $SD = .06$ for boys). Fathers' parenting stress also did not differ by infant gender, $t(170) = -.55$, $p = .582$ ($M = 1.99$, $SD = .06$ for girls; $M = 2.03$, $SD = .05$ for boys).

Table 2 shows the multivariate regression results predicting fathers' parenting satisfaction. Model 1 shows the results before incorporating an interaction term. Fathers who had higher self-efficacy expectations before childbirth experienced higher levels of parenting satisfaction at three months postpartum (B = .42, SE = .12, $p < .01$). In addition, fathers who experienced more maternal gate-opening behaviors experienced higher levels of parenting satisfaction (B = .22, SE = .05, $p < .001$). However, as we can see in Model

2, which includes the interaction term between maternal gate-opening behaviors and fathers' prepartum confidence about their couple relationship, fathers' confidence about their couple relationship moderated the effect of maternal gate-opening behaviors on fathers' parenting satisfaction (B = −.12, SE = .06, $p < .01$). The interaction plot illustrates that fathers, especially those who were less confident about their couple relationship prior to their first child's birth, experienced higher levels of parenting satisfaction when their partners engaged in more gate-opening behaviors (Figure 2). Among fathers with the highest level of confidence about their couple relationship pre-birth, there was no significant difference in parenting satisfaction by maternal gate-opening behaviors.

The multivariate regression results that predicted fathers' postpartum parenting stress are presented in Table 3. In Table 3, Model 1 shows the results without an interaction term, while Model 2 shows the results after adding the interaction term between maternal essentialism and infant negative emotionality. As we can see in Model 1, fathers who had higher anxiety (B =. 02, SE = .01, $p < .05$) and lower parenting self-efficacy expectations (B = −.23, SE = .10, $p < .05$) in the third trimester of pregnancy experienced greater parenting stress after their first child's birth. Greater infant negative emotionality also predicted elevated parenting stress for fathers (B = .13, SE = .04, $p < .01$). Interestingly, the effect of infant negative emotionality on fathers' parenting stress differed significantly according to the level of fathers' prepartum maternal essentialism (B = −.08, SE = .03, $p < .05$). As shown in Figure 3, fathers who more strongly believed in maternal essentialism were likely to experience moderate levels of parenting stress regardless of their infant's negative affectivity. However, fathers with low levels of belief in maternal essentialism tended to have the lowest levels of parenting stress if their infants had below-average levels of negative emotionality, but higher levels of parenting stress if their infants had above-average levels of negative emotionality.

Discussion

The transition to parenthood is a time of both delight and challenge for new fathers as well as for new mothers. Prior research has neglected new fathers' parenting experiences relative to those of new mothers, which is problematic given elevated expectations for fathers' engagement in parenting (McGill, 2014), fathers' incorporation of nurturing father ideals into their identities as fathers (Schoppe-Sullivan et al., in press) and concomitant increases in fathers' direct involvement in parenting (Bianchi et al., 2006). New fathers' cognitions and emotions about their early experiences in the parenting role set the stage for parenting and parent-child relationships, with greater parenting satisfaction facilitating positive parenting behaviors and parent-child relationships (Bornstein et al., 2012; 2018) and greater parenting stress eroding them (Deater-Deckard, 1998). In turn, patterns of parenting established by fathers in the early months and years of parenthood tend to persist over time (Hwang & Lamb, 1997; Vertsberger & Knafo-Noam, 2019). Thus, this paper examined predictors of new fathers' parenting satisfaction and stress to understand risk and resilience among new fathers to inform research and practice. Consistent with Cabrera et al.'s (2014) expanded model, results indicate that new fathers' adjustment to parenthood in dual-earner families is multiply determined by fathers' personal characteristics, family relationships, and child characteristics.

A consistent predictor of fathers' adjustment to parenthood were fathers' parenting self-efficacy expectations assessed during the third trimester of pregnancy. As hypothesized, expectant fathers of infants with stronger parenting self-efficacy expectations reported greater parenting satisfaction and less parenting stress at three months postpartum. In other words, parenting seemed to be a more relaxed and enjoyable experience for fathers who approached parenthood anticipating being effective in their roles as parents. These findings are consistent with prior research indicating relations among parenting self-efficacy, parenting stress, and parenting satisfaction (e.g., Gross et al., 1995; Laws & Millward, 2001). However, in the current study we assessed expectant fathers' expectations regarding their abilities as parents before they had any direct parenting experience. Thus, these results highlight the important role of expectant fathers' prenatal expectations in their adjustment to parenthood. It is important to bear in mind, though, that relations among parenting self-efficacy, stress, and satisfaction are likely transactional (Jones & Prinz, 2005).

Other father psychological characteristics were also important to paternal adjustment. Greater prenatal anxiety was associated with greater postpartum parenting stress, as anticipated, although it did not necessarily portend lower parenting satisfaction. Anxious individuals tend to experience a greater threat than is necessary for the situation, perceiving various aspects of parenting or caring for their child as threatening or potentially more dangerous than is warranted (Tsotsi et al., 2019). Thus, it makes sense that more anxious expectant fathers might experience parenting as particularly stressful relative to less anxious fathers. Greater infant temperamental negative emotionality also increased the risk of new fathers experiencing greater parenting stress, but only for new fathers who did not strongly endorse maternal essentialism. For fathers with a stronger belief in maternal essentialism, their infant's temperamental negative emotionality did not appear to affect their levels of parenting stress. Perhaps fathers with a strong belief in maternal essentialism are less affected by high infant negative reactivity because they attribute their infant's fussiness or unadaptability to their natural disadvantage as parents. These fathers may also be less directly involved in parenting and therefore exposed less often to stress sparked by their infant's mood. Indeed, in another analysis of data from this larger longitudinal study, it was reported that fathers with stronger essentialist beliefs took shorter amounts of paternity leave (Berrigan et al., 2020). In contrast, fathers who believe that men and women are naturally equally capable as parents may be more directly involved in parenting their infants (Beitel & Parke, 1998). Because of their active engagement in parenting, these fathers may also be more likely to attribute their infant's negative mood to their own failure to soothe their infant properly rather than to a general deficit of fathers compared to mothers. This does not mean that new fathers with more essentialist beliefs are necessarily protected from stress; however, their parenting stress may stem from sources other than their infant's temperament.

Whereas fathers' and children's characteristics were important to new fathers' experiences of parenting stress, beyond the boost in parenting satisfaction new fathers experienced when they approached parenthood with high self-efficacy, family relationships mattered most for fathers' parenting satisfaction. When mothers engaged in greater gate-opening behaviors in the context of the coparenting relationship by encouraging and supporting fathers' involvement in parenting, fathers perceived the parenting experience as more enjoyable and rewarding. This was consistent with our expectations and prior research (e.g., Schoppe-

Sullivan et al., 2008). However, the association between maternal gate-opening behaviors and fathers' parenting satisfaction was qualified by a significant interaction with fathers' confidence in the couple relationship, assessed prenatally. When fathers' prenatal confidence in the couple relationship was strong, the extent that mothers engaged in gate-opening behavior did not appear to matter for their parenting satisfaction. However, when fathers entered the transition to parenthood less sure of the longevity of their romantic relationship with their child's mother, maternal gate-opening behavior in the early postpartum months appeared to affect their experience of the parenting role, such that these fathers were more satisfied as parents when mothers encouraged and supported their involvement in parenting. Whereas fathers who enter parenthood confident in the future of their couple relationship may not need their partner's encouragement to enjoy the parenting role, fathers who enter parenthood less sure about their relationships might be at greater risk to disengage from parenting, and therefore benefit more from a supportive coparenting relationship (McHale et al., 2012). This could be an especially important finding because it suggests an avenue towards preserving greater father investment in and engagement in parenting, even when the couple relationship may be at risk for dissolution, given that greater parenting satisfaction is motivating for parents and linked to warm and close parent-child relationships (Bornstein et al., 2012).

The contributions of this study are tempered by its limitations. Although we believe the focus on dual-earner first-time fathers was important because these fathers face elevated expectations to balance active involvement in parenting with a focus on work and career, narrowing our sample in this way resulted in a less racially and ethnically diverse, highly educated, and high-income sample. As such, our results may not generalize to less privileged populations of new fathers. In addition, even though we were able to examine predictors of new fathers' adjustment from the domains of personal characteristics, family relationships, and child characteristics, we were unable to include the work and social/community domains of Cabrera et al.'s (2014) model given the data we had available. Future research should better incorporate extra- as well as intra-personal and intra-familial factors in studies of new fathers' adjustment to parenthood. As well, our sample size, though relatively large for a longitudinal study of new fathers, did limit the total number of predictors that we were able to examine. Moreover, the interaction effects we uncovered in exploratory analyses await replication in future studies. We also note that the internal consistency reliability of the measure of parenting stress was lower than ideal. Finally, we measured fathers' satisfaction and stress at multiple time points across the first nine months of their child's life in the hope to examine change in these aspects of their adjustment across this period. However, when we examined the data with analyses not presented here, we found very little appreciable change in fathers' adjustment from three to six to nine months postpartum. Thus, we opted to predict fathers' initial levels of adjustment at three months, the time point at which we also had the most complete data. It is possible that the measures or time points we used were not best suited to detect change in fathers' satisfaction and stress. Alternatively, initial levels of new fathers' satisfaction and stress may persist for at least nine months, making our efforts to uncover predictors of these initial levels especially important.

In addition to implications for future research, the results of this study also affirm and guide the focus of clinicians and health care providers who work with expectant and new fathers,

their partners, and their families, including OBGYNs, infant mental health professionals, and family life educators. Unfortunately, few father-inclusive perinatal interventions are available to fathers, and those that have been evaluated show inconsistent effects on fathers' parenting attitudes and self-efficacy (Lee et al., 2018). The results of our study emphasize the importance of the development of effective interventions that build expectant fathers' parenting self-efficacy (Gross & Marcussen, 2017). Leerkes and Burney (2007) reported that expectant fathers had half as much prior experience with children as expectant mothers, which could put expectant fathers at a disadvantage regarding parenting self-efficacy. Given that many of today's fathers are eager to be more directly involved in parenting than their predecessors, better equipping them to deploy various infant soothing techniques when faced with an especially fussy infant, for example, may be helpful, and may protect them from elevated parenting stress levels.

Moreover, given that expectant fathers with higher levels of anxiety appeared more susceptible to parenting stress, and that levels of antenatal anxiety and depressive symptoms are similar for expectant mothers and fathers (Parfitt & Ayers, 2014), mental health screenings inclusive of expectant and new fathers and provision of appropriate supports are critical (Da Costa, et al., 2019). In addition, considering the importance of mothers' gate-opening behavior for new fathers' parenting satisfaction, especially for fathers with less confidence in the couple relationship, a focus on helping mothers to understand and support new fathers may be fruitful for improving coparenting (Pearson et al., 2020), which may boost fathers' parenting satisfaction. Ultimately, to the extent that new fathers are less stressed and more satisfied in their parenting roles, they are likely to continue actively engaging with their children and building a close father-child bond, to the substantial benefit of their children and partners.

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Availability of data and material

Data are available from the corresponding author upon request.

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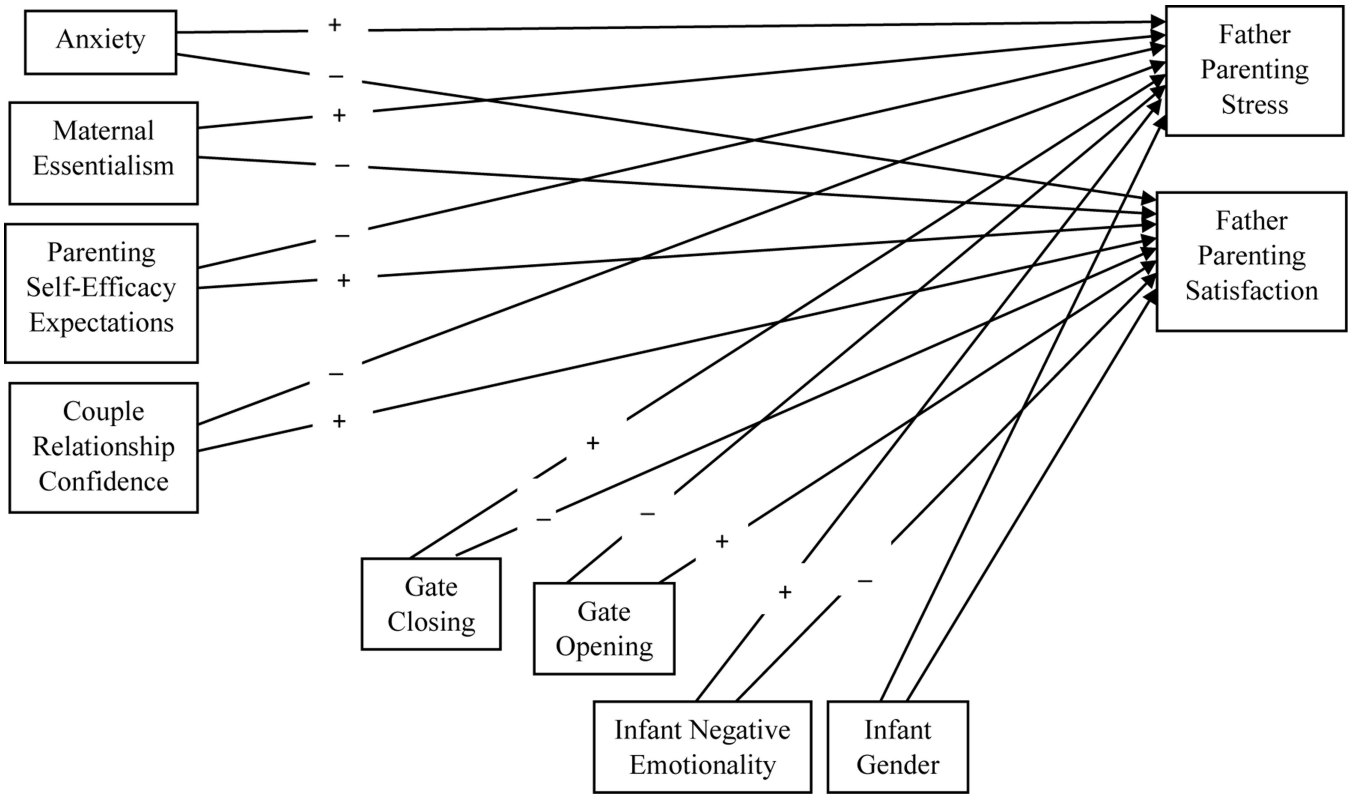

Figure 1.
Hypothesized relations between predictors and fathers' parenting stress and satisfaction

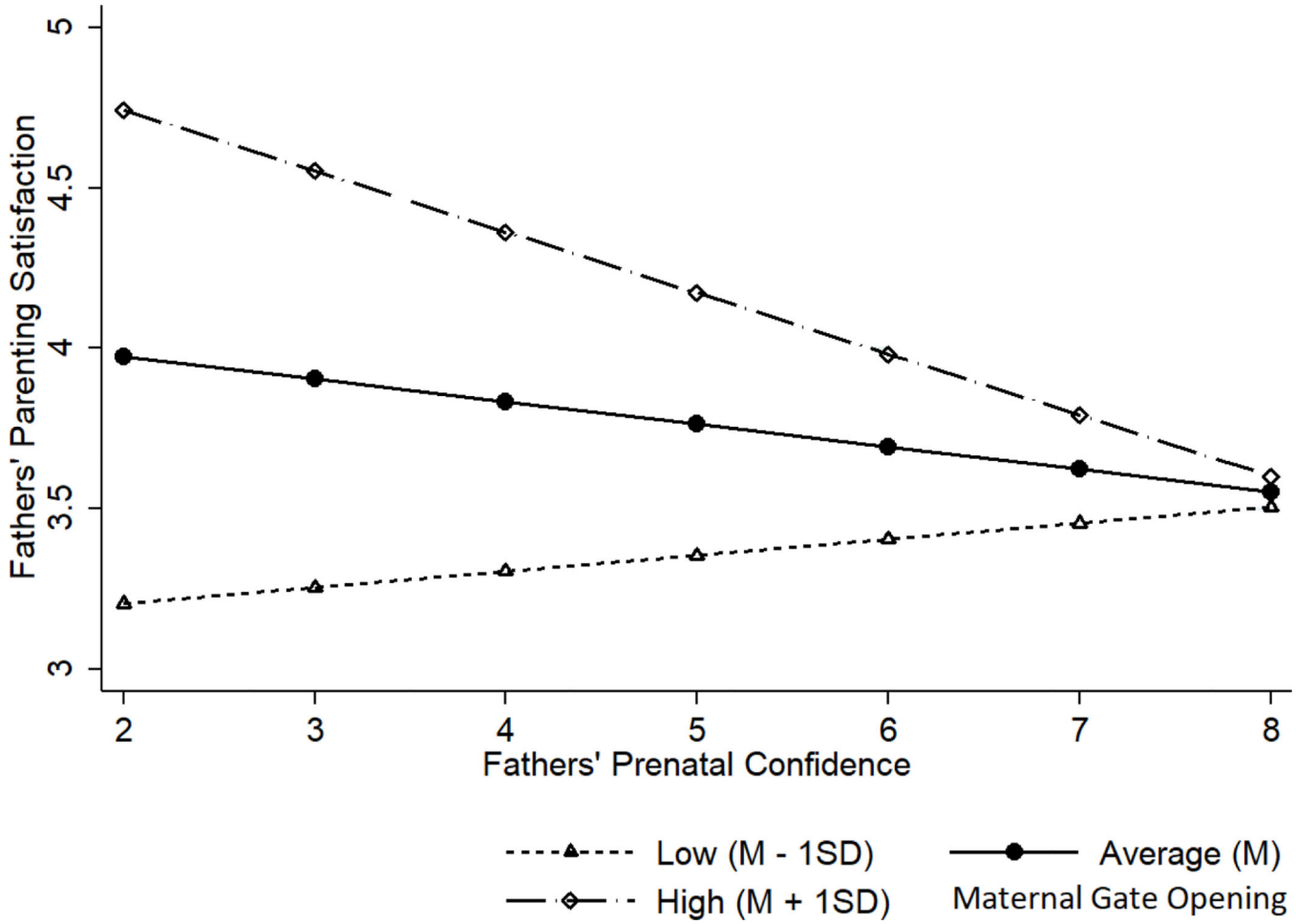

Figure 2.
Interaction between fathers' prenatal confidence in the couple relationship and maternal gate-opening behaviors predicting parenting satisfaction

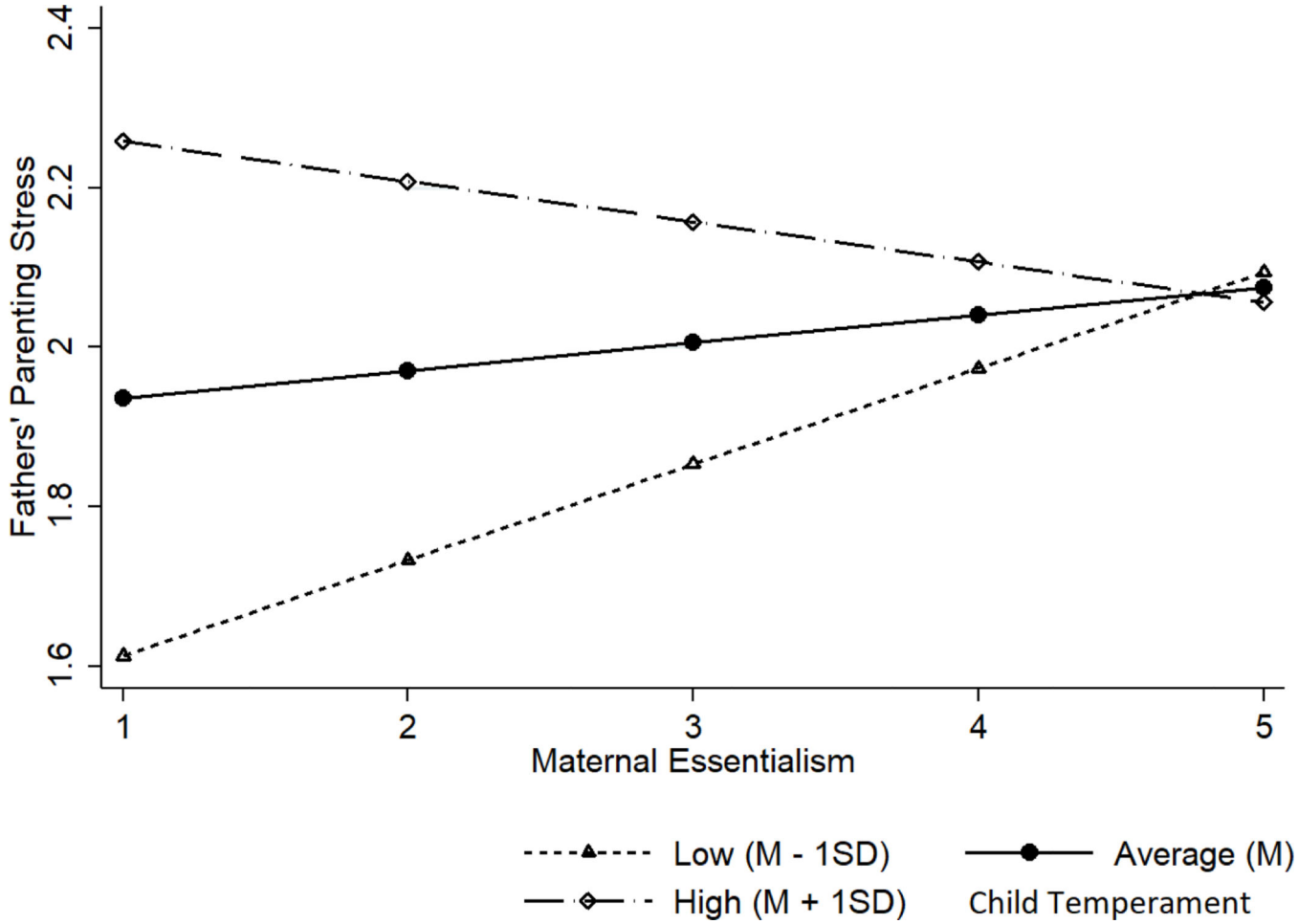

Figure 3.
Interaction between fathers' belief in maternal essentialism and infant negative emotionality predicting fathers' parenting stress

Table 1

Descriptive statistics and intercorrelations for fathers' parenting stress and satisfaction and predictors

	A	B	C	D	E	F	G	H	I	J	K	Mean (SD)
A	1.00											1.98 (.54)
B	−.20***	1.00										3.62 (.59)
C	.29***	−.06	1.00									9.64 (3.43)
D	.24***	.00	.02	1.00								3.2.3 (1.06)
E	−.31***	.33***	−.12*	−.18***	1.00							3.36 (.44)
F	−.21***	.10**	−.05	−.02	.00	1.00						6.69 (.56)
G	.23***	−.07	.10**	.07	−.02***	−.06	1.00					2.39 (.86)
H	−.14***	.31***	−.13**	.02	.02***	.14***	−.34**	1.00				4.04 (.99)
I	.42***	−.14***	.15***	.21***	−.35***	−.09*	.13***	−.19***	1.00			3.46 (1.06)
J	.20***	−.28***	.13**	.25***	−.50***	−.03	.11**	−.34***	.06	1.00		5.31 (1.78)
K	.04	−.07	.02	.29***	−.26***	.15***	.17***	−.11**	.03	.39***	1.00	4.52 (1.07)

Note. A = Fathers' parenting stress, B = Fathers' parenting satisfaction, C = Fathers' anxiety, D = Maternal essentialism, E = Parenting self-efficacy expectations, F = Fathers' confidence in the couple relationship, G = Maternal gate closing behaviors, H = Maternal gate opening behaviors, I = Infant negative emotionality, J = Fathers' education, K = Fathers' work hours.

*$p < .05$

**$p < .01$

***$p < .001$.

Table 2

Regression analysis predicting fathers' parenting satisfaction (N = 182)

	Model 1		Model 2	
	B (S.E.)	**95% CI**	**B (S.E.)**	**95% CI**
Fathers' anxiety	−.02 (.01)	−.04, .01	−.02 (.01)	−.04, .01
Maternal essentialism	−.02 (.04)	−.10, .06	−.02 (.04)	−.09, .06
Parenting self-efficacy expectations	.42 (.12)**	.17, .67	.45 (.13)**	.20, .70
Fathers' confidence in the couple relationship	.02 (.07)	−.12, .17	.42 (.20)	.02, .82
Maternal gate-closing behaviors	.03 (.05)	−.07, .12	.02 (.05)	−.07, .12
Maternal gate-opening behaviors	.22 (.05)***	.12, .31	1.02 (.38)**	.27, 1.77
Maternal gate-opening behaviors x Couple relationship confidence	-	-	−.12 (.06)**	−.23, −.01
Infant negative emotionality	.04 (.05)	−.05, .14	.03 (.05)	−.06, .13
Infant gender	−.09 (.08)	−.25, .07	−.07 (.08)	−.23, .09
Fathers' education	−.03 (.03)	−.08, .03	−.03 (.03)	−.08, .03
Fathers' work hours	−.03 (.05)	−.13, .06	−.02 (.05)	−.12, .07
Constant	1.54 (.89)	−.23, 3.31	−1.19 (1.57)	−4.29, 1.91
	F (10, 163.7) = 5.65***		F (12, 151.7) = 5.44***	
	Average RVI = .132		Average RVI = .071	
	Largest FMI = .246		Largest FMI = .190	

Note. Note. S.E. = Standard Error; RVI = Relative Increase in Variance; FMI = Fraction of Missing Information.

* $p < .05$

** $p < .01$

*** $p < .001$.

Table 3

Regression analysis predicting fathers' parenting stress (N = 182)

	Model 1		Model 2	
	B (S.E.)	**95% CI**	**B (S.E.)**	**95% CI**
Fathers' anxiety	.02 (.01)*	.001, .05	.02 (.01)*	.001, .05
Maternal essentialism	.04 (.04)	−.03, .11	.32 (.12)**	.08, .55
Parenting self-efficacy expectations	−.23 (.10)*	−.43, −.03	−.25 (.10)*	−.45, −.06
Fathers' confidence in the couple relationship	−.01 (.06)	−.13, .11	.001 (.06)	−.12, .12
Maternal gate-closing behaviors	.07 (.04)†	−.01, .16	.07 (.04)	−.02, .15
Maternal gate-opening behaviors	−.04 (.04)	−.12, .04	−.05 (.04)	−.13, .03
Infant negative emotionality	.13 (.04)**	.05,.21	.39 (.11)**	.16, .61
Infant gender	.02 (.07)	−.12, .16	.03 (.07)	−.11, .17
Maternal essentialism x Infant negative emotionality	-	-	−.08 (.03)*	−.15, −.02
Fathers' education	.02 (.03)	−.03, .07	.02 (.03)	−.03, .07
Fathers' work hours	−.03 (.04)	−.11, .05	−.03 (.04)	−.11, .05
Constant	2.05 (.72)**	.64, 3.46	1.20 (.79)	−.36, 2.75
	F (10, 167) = 4.66***		F (11, 166) = 4.90***	
	Average RVI = .073		Average RVI = .077	
	Largest FMI = .135		Largest FMI = .116	

Note. S.E. = Standard Error; RVI = Relative Increase in Variance; FMI = Fraction of Missing Information.

* $p < .05$

** $p < .01$

*** $p < .001$.