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Perceptions of Partner Responsiveness Across the Transition to Parenthood

Dave Smallen¹, Jami Eller², W. Steven Rholes³, and Jeffry A. Simpson²

Department of Human Development and Family Studies, University of Wisconsin-Madison

Department of Psychology, University of Minnesota-Twin Cities

Department of Psychology, Texas A&M University

This longitudinal study examined associations between perceptions of partner responsiveness and relationship satisfaction of each partner (new parents) across the first 2 years of a chronically stressful life event—the transition to parenthood. Responsiveness indexes the degree to which partners respond to each other with understanding, validation, and care. Consistent with prior work, lower ratings of responsiveness receipt and provision predicted declines in relationship satisfaction across the transition. These effects, however, were moderated by parental stress, such that among new parents who reported experiencing higher levels of parental stress, providing higher levels of responsiveness to partners was associated with declines in relationship satisfaction. Conversely, under lower stress, relationship satisfaction benefited from higher levels of both providing and receiving responsiveness. All of these effects held when controlling for both partners' levels of agreeableness, neuroticism, support-seeking, income, and work–family conflict. Post hoc moderation analyses revealed that high stress partners who reported providing higher responsiveness reported larger declines in relationship satisfaction if they scored higher in attachment avoidance or had more negative social exchanges with their partner. We discuss these novel stress moderation results in light of the need to and meaning of engaging in responsiveness, especially during chronically stressful periods of life.

Keywords: responsiveness, relationship satisfaction, transition to parenthood, stress, dyadic modeling

Supplemental materials: https://doi.org/10.1037/fam0000907.supp

When becoming parents for the first time, most relationship partners experience a major life transition that affects their bodies, minds, social roles, and relationships (Cowan & Cowan, 2000; Saxbe et al., 2018). This event—the transition to parenthood—tends to be a chronically stressful time for most, but not all, new parents (Belsky & Rovine, 1990), with stress usually having a negative impact on relationship satisfaction and functioning (Karney & Bradbury, 2020; Mitnick et al., 2009). Indeed, most new parent couples report steeper declines in relationship satisfaction than childless couples, at least temporarily (Lawrence et al., 2008).

One key predictor of relationship satisfaction that should be salient during the transition to parenthood is partner responsiveness—the degree of understanding, validation, and care that partners display toward one another (Reis et al., 2004; Reis & Shaver, 1988). A considerable body of research indicates that responsiveness is associated with a variety of positive outcomes for both individuals and relationships (Reis & Clark, 2013).

Dave Smallen https://orcid.org/0000-0002-1088-4597 Jami Eller https://orcid.org/0000-0002-7623-1185

Jeffry A. Simpson https://orcid.org/0000-0003-1899-2493

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Correspondence concerning this article should be addressed to Dave Smallen, Department of Human Development and Family Studies, University of Wisconsin-Madison, 1300 Linden Drive, Madison, WI 53706, United States. Email: dsmallen@wisc.edu

Nevertheless, our understanding of responsiveness might benefit from examining both its positive effects as well as its limitations during a chronically stressful period such as the transition to parenthood, a time when partners typically experience a greater need for responsive support while their available time, energy, and psychological resources are taxed.

The current research evaluates the effects of partners' perceived provision and receipt of responsiveness on changes in their relationship satisfaction across the transition to parenthood, utilizing a longitudinal, dyadic sample assessed at five time-points during the first 2 years of the transition. This chronically stressful phase of life is a time when both giving and receiving responsive support ought to be important for both personal and relational well-being. Enacting responsive support, however, may be challenging given the additional demands and pressures of new parenthood. Because new parents may experience different levels of stress during the transition (Cowan & Cowan, 2000), we also examined the relation between responsiveness and relationship satisfaction, conditional upon each partner's perceptions of parental stress. No research to our knowledge has examined dyadically whether and how both providing and receiving responsiveness may be consequential for global relationship satisfaction across time, particularly during a chronically stressful period. The current research fills these gaps by also investigating the conditions under which responsiveness is associated with changes in relationship satisfaction across the transition to parenthood.

Stress Across the Transition to Parenthood

For most couples, the transition to parenthood is a major life stressor, with most couples experiencing declines in relationship satisfaction during this phase of life (Cowan & Cowan, 2000;

Lawrence et al., 2008). Some research, however, indicates that some partners remain stable or experience slight increases in relationship satisfaction across the transition (e.g., Belsky & Rovine, 1990; Doss et al., 2009). Having a child for the first time introduces many new and unique challenges for new parents that could weaken the quality of their relationship. New parents, for example, must learn to care for an infant amid elevated fatigue, sleep deprivation, added financial burdens, changing work patterns, and novel daily stressors, all of which may be compounded by their socioeconomic status, workfamily conflict, and the mental health of each partner (Cowan & Cowan, 2000; Hagen et al., 2013). Moreover, men and women (in different gendered parenting relationships) may face different social role expectations as they become parents (Eagly et al., 2000; Nelson-Coffey et al., 2019).

The cumulative impact of the changes that new parents experience on their relationship quality should depend, at least in part, on the interpersonal processes that help partners cope with parenthood. Paradoxically, while the new demands and stress associated with becoming a parent often increase the need for support (Cutrona, 1984), new parents are also less able to provide high-level support to their partners and frequently perceive fewer extrarelational sources of support (Bost et al., 2002), which undermines relationship satisfaction (Kohn et al., 2012).

Partner Responsiveness

Partner responsiveness involves the perception that one's partner understands, validates, and cares for them (Reis & Clark, 2013; Reis & Shaver, 1988). *Understanding* refers to perceptions of the degree to which a partner accurately comprehends the self, including one's feelings, beliefs, goals, history, and self-perceptions (Reis et al., 2017). *Validation* reflects perceptions of the degree to which one's partner values, appreciates, and affirms them, including their core self and whether they are loved because of who they are (Reis & Clark, 2013; Reis & Shaver, 1988). *Care* refers to perceptions of the degree to which one's partner demonstrates genuine concern for them (Reis & Clark, 2013).

Both the enactment of responsive behaviors and perceived partner responsiveness can be influenced by the subjective goals, beliefs, and feelings of each partner (Reis & Shaver, 1988). Ultimately, the perception that one is understood, validated, and cared for in a relationship depends on the pattern of interactions that partners have, especially each partner's responsive actions and their perceptions of being responsively supported (Reis & Clark, 2013). Reciprocal responsiveness within a relationship typically generates mutual trust and affection. Moreover, when an individual perceives that their interaction partner is providing sufficient care to support their goals, a positive feedback cycle may be established, with responsiveness by one partner motivating responsiveness in the other (Canevello & Crocker, 2010).

Research has documented numerous positive outcomes of partner responsiveness with respect to both relational and personal well-being. Partner responsiveness, for example, plays a pivotal role in establishing and maintaining intimacy in relationships (Laurenceau et al., 1998, 2005; Reis & Shaver, 1988). It also is partially responsible for the development and maintenance of relationship satisfaction between romantic partners, as revealed by studies that have examined the interpersonal process of intimacy (Laurenceau et al., 2005), stress communication (Pagani et al., 2019), and

couples coping with one partner's chronic illness (Fekete et al., 2007). Partner responsiveness is also promoted in Emotionally-Focused Couples Therapy, an evidence-based therapeutic approach derived from attachment theory (Wiebe & Johnson, 2016) that has been applied within a relationship education format (Kennedy et al., 2019). More broadly, partner responsiveness is associated with better physical health (Slatcher et al., 2015) and lower mortality risk (Stanton et al., 2019), given that reduced stress puts less stress-related erosion on physiological systems. Recent research examining responsiveness across the transition to parenthood suggests that sexual responsiveness predicts greater relationship and sexual satisfaction for mothers (Rosen et al., 2020).

Providing Responsiveness Under Stress

Responsive behavior typically benefits relationship satisfaction, not only among partners who receive high levels of responsive support but also in highly responsive partners. Caring for others during times of need is an innate human tendency (Bowlby, 1988). Providing care and support activates brain regions associated with pleasure and reward and facilitates social bonding (Inagaki & Eisenberger, 2012). There is accumulating evidence that support providers often experience enhanced personal well-being via improved self-worth and reduced stress, especially when support provision is effective and enacted voluntarily (Inagaki & Orehek, 2017).

The impact of responsiveness during stressful events has typically been studied with a focus on the outcomes of the recipient of responsive behavior. Nevertheless, the provider of responsive behavior may also experience unique outcomes while they are exposed to stress. Although responsively engaging with a partner should decrease the partner's stress, research indicates that greater responsiveness (e.g., time spent listening to one's partner and providing validation) is associated with greater distress in the support provider (Lewis & Manusov, 2009). Moreover, supporting a partner could be viewed as an obligation rather than a choice in stressful contexts, which may impede the agency of support providers and limit the self-esteem or stress-reduction benefits that often comes with choosing to provide support (Inagaki & Orehek, 2017). Feeling obligated may have a particularly negative affect on people who are avoidantly attached given their strong need for autonomy and control (Mikulincer, 1998).

Stressful contexts may also limit the impact of responsive support on easing a recipient's distress (McLeod et al., 2020). If so, the additional stress associated with being a responsive support provider during a chronically stressful life event such as the transition to parenthood may have negative implications for the quality of a couple's relationship as well as each partner's level of satisfaction. Such an environment may put new parents at risk for parental burnout, a syndrome that generates more emotional distancing between new parents (Roskam et al., 2017) and, in some cases, greater conflict and more negative social exchanges (Blanchard et al., 2021).

Although most of the current literature indicates that responsiveness is beneficial, it is conceivable that, under certain conditions, being in a role that *requires* high levels of responsiveness may actually harm relationship quality (Baker & McNulty, 2020; Inagaki & Orehek, 2017; McNulty, 2008). This might be particularly true under high levels of chronic stress, which may evoke demand-related responsive behaviors from one or both romantic

partners. Lower levels of stress are likely to permit greater agency in choosing whether, when, and how to be responsive, whereas higher levels of stress—especially if it is sustained—may make it more difficult to be responsive, impairing both partners' levels of relationship satisfaction across time. In addition, when partners do behave in responsive ways under high levels of chronic stress, their behaviors may be perceived as inauthentic or compelled, which also may undermine relationship quality (Lemay & Clark, 2008). Very little research to date has examined relations between perceived partner responsiveness, both given and received, and relationship satisfaction during the transition to parenthood, particularly in relation to parental stress. However, consistent with our logic, one recent longitudinal study found that partners who were more responsive before pregnancy reported poorer adaptation to parenthood across the transition (Kuile et al., 2017), ostensibly because high levels of responsive support strained responsive partners' limited psychological resources, generating negative relationship outcomes.

The Present Study

In the current dyadic, longitudinal study, we examined over-time associations between first-time parents' perceptions of responsiveness as both providers and recipients and their relationship satisfaction during the transition to parenthood. We did so by analyzing longitudinal data gathered at five time points (waves), beginning 6 weeks before the birth of each couple's first child and continuing at 6-month increments across the first 2 years of each child's life. At each assessment wave, we measured each partner's level of relationship satisfaction, their perceptions of responsiveness as providers and recipients, and their parental stress. We tested the following hypotheses using multilevel lagged modeling. Hypotheses 1 and 2 correspond to the perceived provision of responsiveness, whereas Hypotheses 3 and 4 correspond to the perceived receipt of responsiveness (e.g., perceived partner responsiveness). Because relationship satisfaction tends to decline for most couples across the transition to parenthood (Cowan & Cowan, 2000), we expected responsiveness to predict attenuations in declines rather than increases in satisfaction over time. All of our hypotheses were preregistered (https://osf.io/dhbae):

Hypothesis 1: As actor's reports of their own degree of responsiveness toward their partner increase, they will report attenuated declines or no changes in relationship satisfaction over time. As actor's reports of their own degree of responsiveness toward their partner decrease, they will report larger declines in relationship satisfaction over time.

Hypothesis 2: The effect of actor's perceptions of their own degree of responsiveness on their subsequent relationship satisfaction will be moderated by their level of parental stress, such that increases in parental stress will diminish the benefits of responsiveness providing on changes in relationship satisfaction over time.

Hypothesis 3: As actor's perceptions of their partner's degree of responsiveness increase, they will report attenuated declines or no changes in relationship satisfaction over time. As actor's perceptions of their partner's degree of responsiveness

decrease, they will report larger declines in relationship satisfaction over time.

Hypothesis 4: The effect of actor's perceptions of their partner's degree of responsiveness on actor's subsequent relationship satisfaction will be moderated by their level of parental stress, such that actor's increases in parental stress will diminish the benefits of perceived partner responsiveness on changes in their relationship satisfaction over time.

These effects should remain significant when the following plausible, commonly examined confounds are statistically controlled: the personality traits of actor and partner agreeableness (consistent with prior research on responsiveness, e.g., Stanton et al., 2019) and actor and partner neuroticism (McCrae, 1990); actor and partner supportseeking, which is known to elicit responsiveness (Pagani et al., 2019); and two situational stressors—actor and partner reports of work–family conflict and income—both of which may be associated with relationship satisfaction during the transition to parenthood (Cowan & Cowan, 2000). Although the transition to parenthood often impacts men and women differently (Nelson-Coffey et al., 2019), the findings across the literature are mixed regarding which sex/gender benefits more from providing and receiving support/responsiveness. Given these mixed findings, we did not have any specific a priori hypotheses related to sex/gender effects, but we tested for sex/gender differences in all models.

Finally, we conducted post hoc analyses to examine for whom and under what circumstances being highly responsive when under stress may be harmful to relationship satisfaction. We examined if providing higher levels of responsiveness when under higher stress was particularly harmful for highly avoidant individuals, for whom providing responsiveness when stressed may violate feelings of autonomy and control, and for individuals who reported higher negative social exchange, indicating greater conflict in relationships, which might be expected in relationships with highly avoidant individuals who are experiencing high stress and lack of autonomy (Simpson & Rholes, 2019). These models allowed us to examine potential boundary conditions to the benefits of providing responsiveness when under stress.

Method

Participants

One hundred ninety-two married or cohabitating different sex/gender dyads expecting their first child were initially recruited. At prenatal assessment, there were 192 couples. Fifty-five couples dropped out of the study over the 2-year study period, which resulted in a final sample of 137 dyads with complete data from both partners. Most dyads were married (95%; M=3.30 years; SD=2.60) and the remainder were cohabiting (5%; M=1.85 years; SD=2.19). On average, male partners were 28.4 years old (SD=4.40) and female partners were 26.7 years old (SD=4.10). The majority of the sample was White (82%) and the remainder were Asian (9%) or Hispanic (9%). Our sample was highly educated, all but 6% having some college education.

Procedure

Dyads were recruited from childbirth classes in a Southwest U.S. city. To qualify for the study, romantic partners had to be married or

cohabiting and expecting their first child. Dyads (both partners) were assessed five times: 6 weeks prenatal and 6, 12, 18, and 24 months postnatal. For each assessment, each partner was mailed separate questionnaires and instructed to complete them independently. Dyads were compensated \$50 for each of the first three assessments and \$75 for the last two assessments, with increases in compensation over time intended to attenuate attrition rates. Data were gathered from 2002 to 2006. We had no theoretical reason to suspect that the processes or outcomes we examined should be different across time. This research (entitled "The Transition to Parenthood") was approved by the Texas A&M's Institutional Review Board (protocol number: 23059401).

Measures

At each assessment, both partners independently completed the same set of self-report measures. Those relevant to the present study are described below.

Responsiveness

Responsiveness was assessed using a scale constructed from six items for this study and validated via correlations with observercodings of participant behavior in a video-recorded support task (see Supplemental Material for the full scale and reliability and validity evidence). Items were drawn from two scales, measuring social support (Sarason et al., 1983) and caregiving (Kunce & Shaver, 1994). Consistent with other measures of support and responsiveness (Zimet et al., 1988), our measure includes both quality and frequency of responsiveness items, which formed a unitary reliable scale. This scale measures perceived partner responsiveness and self-reports of one's own responsiveness over the previous month, with items corresponding to the three dimensions of responsiveness: understanding, validation, and care (e.g., "How much can you count on your partner/spouse to care about you, regardless of what is happening to you?"). Participants rated their agreement on a 1 (strongly disagree) to 7 (strongly agree) Likert-type scale. Across the five assessments, Cronbach's α ranged from .83 to .86 for women and from .81 to .87 for men for perceived partner responsiveness. Higher scores reflected greater responsiveness. From here forward, we refer to perceptions of responsiveness simply as "responsiveness" for ease of reference.

Parental Stress

Parental stress was assessed by the Parental Stress Index (PSI; Abidin, 1983), which measures stress related to parenting with 32 items (e.g., "There are some things my baby does that really bother me"). Participants rated their agreement on a 1 ($strongly\ disagree$) to 5 ($strongly\ agree$) Likert-type scale. Across the five assessments, Cronbach's α ranged from .86 to .95 for women and from .90 to .95 for men. Higher scores reflected greater parental stress.

Relationship Satisfaction

Relationship satisfaction was assessed using the satisfaction subscale of Dyadic Adjustment Scale (DAS; Spanier, 1976). The DAS measures relationship satisfaction with 10 items (e.g., "In general, how often do you think that things between you and

your partner/spouse are going well?"). Participants rated their agreement on a 1 (*never*) to 6 (*all the time*) Likert-type scale. Across the five assessments, Cronbach's α ranged from .81 to .89 for women and from .83 to .89 for men. Higher scores reflected greater relationship satisfaction.

Support-Seeking

Support-seeking was assessed using the Support Seeking Scale (MOOS; Moos et al., 1983). The MOOS measures support-seeking with 18 items (e.g., "When I have a problem, this is what I do: Go immediately to my partner/spouse"). Participants rated their agreement on a 1 (*very much unlike what I do*) to 7 (*very much like what I do*) Likert-type scale. Across the five assessments, Cronbach's α ranged from .79 to .87 for women and from .83 to .87 for men. Higher scores reflected more support-seeking.

Agreeableness and Neuroticism

Agreeableness and neuroticism were assessed using the Big Five Inventory (BFI; John et al., 1991). The BFI measures agreeableness with seven items (e.g., "I like to cooperate with others") and neuroticism with seven items (e.g., "I get nervous easily"). Participants rated their agreement on a 1 (*strongly disagree*) to 5 (*strongly agree*) Likert-type scale. At the prenatal assessment, Cronbach's α were .71 for women and .70 for men for agreeableness and .84 for women and .71 for men for neuroticism. Agreeableness and neuroticism were assessed at only the prenatal assessment. Higher scores reflected greater agreeableness and neuroticism, respectively.

Work-Family Conflict

Work–family conflict was assessed using the Work–Family Conflict Scale (WFC; Yang et al., 2000). The WFC measures work–family conflict with three items (e.g., "How much conflict is there between the demands of your job and your family life?"). Participants rated their agreement on a 1 (not at all) to 7 (a great deal) Likert-type scale. Across the five assessments, Cronbach's α ranged from .81 to .91 for women and from .77 to .82 for men. Higher scores reflected greater work–family conflict.

Income

Household income was assessed in the demographic questionnaires, administered prenatally. Income was assessed by asking "What range best describes your current household yearly income (both you & your partner's together)?" Overall, income was moderate across the sample: 14% earning under \$25,000/year, 17% earning \$25,000–\$39,999/year, 30% earning \$40,000–\$54,999/ year, 16% earning \$55,000–\$69,999/year, 14% earning \$70,000– \$84,999/year, 3% earning \$85,000–\$99,999/year, and 6% earning over \$100,000/year.

Negative Social Exchange

The Negative Social Exchange Scale (Finch et al., 1999) assessed perceptions of the frequency with which the partner acted negatively toward the self during the past month (e.g., "put me down," "lost his/her temper with me," "seemed bored with me"). Items were

answered on a 9-point scale, anchored 1 (not at all) to 9 (frequently). Across the five assessment waves, Cronbach's α ranged from .95 to .96 for women and from .94 to .97 for men. Higher scores indicated perceptions of having received more frequent negative behavior from the partner.

Avoidant Attachment

The Adult Attachment Questionnaire (AAQ; Simpson et al., 1996) was used to assess attachment orientations toward romantic partners in general. The avoidance subscale (8 items) assesses the degree to which individuals hold negative views of others and avoid or withdraw from closeness and intimacy in relationships. Items were answered on a 7-point Likert-type scale ($1 = strongly \ disagree$; $7 = strongly \ agree$). Across the five assessment waves, Cronbach's α ranged from .87 to .96 for women and from .84 to .94 for men. Higher scores indicated being more avoidantly attached.

Data Analytic Method

All analyses were completed using *lmer* in R (Bates et al., 2015). Given the dyadic and interdependent nature of the data, analyses were conducted using dyadic actor–partner lagged models within a multi-level (mixed) modeling framework for repeated measures (Kenny et al., 2006). The lagged models assessed each participant's change in relationship satisfaction from one assessment to the next (e.g., from predictors at the previous lag). For example, responsiveness and parental stress at assessment t should predict satisfaction at assessment t+1, controlling for satisfaction at assessment t. In this study, there were four lags (e.g., $T1 \rightarrow T2$, $T2 \rightarrow T3$, $T3 \rightarrow T4$, and $T4 \rightarrow T5$), which were automatically aggregated to assess the average effect of the predictors on changes in the outcome across all of the lags.

The data were nested such that repeated responses were nested within each participant across assessments and participants were nested within each dyad (their relationship). Each participant's intercepts and slopes were modeled as random effects and allowed to correlate across time. This allowed between-person variation and partners' intercepts and slopes to covary to account for and statistically control interdependence in partners' responses. Thus, shared error variance in dyad members' relationship satisfaction was accounted for. We used restricted maximum likelihood (REML) to weight each dyad's scores based on the number of assessments completed by each partner. Listwise deletion was used for missing data. Thus, if a participant was missing data at a given assessment, no lags involving that assessment were examined, but all other lags that had sufficient data were examined for that participant. If, for example, a participant was missing data only at T4, lags for T1 \rightarrow T2 and T2 \rightarrow T3 were still included.

Because the transition to parenthood could be impacted by gender roles (Cowan & Cowan, 2000; Katz-Wise et al., 2010), we also tested for sex/gender moderation in all models. Sex/gender was effect coded (women = -1; men = +1). All predictors were grandmean centered, allowing for between-person comparisons (Aiken & West, 1991). Since most of the variables were time-varying, the effects can be interpreted as individuals scoring high (+1 SD) or low (-1 SD) on the predictor variables at the *prior lag*. 95% confidence intervals (CIs) are also reported.

Results

Preliminary Analyses

Means and standard deviations for all variables are presented in Table 1. Correlations for all variables are presented in Table 2. There were significant interpartner correlations indicating nonindependence in dyad members' data. Therefore, distinguishable dyadic data analyses were conducted to model the covariation in the predictors and shared error variance in the outcomes.

We evaluated prenatal differences between dyads for which both partners completed the entire study (completers, N = 137 dyads) versus those who did not (dropouts, N = 55 dyads). The two groups

Table 1Descriptive Statistics

Variable	Wave 1	Wave 2	Wave 3	Wave 4	Wave 5
Responsiveness (self)—women	6.02 (0.72)	5.97 (0.77)	5.8 (0.77)	5.87 (0.76)	5.84 (0.77)
Responsiveness (self)—men	5.73 (0.75)	5.6 (0.77)	5.54 (0.88)	5.54 (0.84)	5.53 (0.95)
Responsiveness (partner)—women	5.90 (0.92)	5.67 (1.05)	5.61 (1.10)	5.62 (1.08)	5.45 (1.04)
Responsiveness (partner)—men	5.91 (0.79)	5.71 (0.95)	5.56 (0.99)	5.73 (0.97)	5.41 (1.10)
Parental stress (overall)—women	3.31 (0.87)	4.19 (0.35)	4.17 (0.39)	4.17 (0.36)	4.16 (0.39)
Parental stress (overall)—men	3.26 (0.86)	4.15 (0.44)	4.11 (0.4)	4.18 (0.39)	4.14 (0.42)
Marital satisfaction—women	43.2 (4.3)	42.4 (4.63)	42.52 (4.7)	42.42 (5.61)	41.6 (6.78)
Marital satisfaction—men	42.62 (4.75)	42.34 (4.98)	41.64 (6.72)	41.4 (6.4)	40.84 (6.98)
Attachment avoidance—women	2.35 (0.93)	2.23 (0.96)	2.23 (0.99)	2.34 (1.06)	2.36 (1.14)
Attachment avoidance—men	2.50 (0.92)	2.31 (0.81)	2.34 (0.89)	2.29 (0.86)	2.37 (0.94)
Negative social exchange—women	2.32 (1.11)	2.27 (1.12)	2.42 (1.12)	2.45 (1.28)	2.33 (1.07)
Negative social exchange—men	2.08 (0.85)	2.15 (1.06)	2.24 (1.02)	2.22 (1.15)	2.24 (1.16)
Covariates					
Support-seeking—women	5.13 (0.74)	5.08 (0.8)	4.95 (0.93)	4.91 (0.93)	5.01 (0.81)
Support-seeking—men	4.62 (0.81)	4.73 (0.8)	4.61 (0.84)	4.76 (0.86)	4.68 (0.94)
Agreeableness—women	3.78 (0.59)				
Agreeableness—men	3.81 (0.55)				
Neuroticism—women	2.83 (0.8)				
Neuroticism—men	2.23 (0.67)				
Work-family conflict-women	2.83 (1.41)	2.75 (1.7)	2.91 (1.73)	2.77 (1.65)	2.82 (1.61)
Work-family conflict—men	3.34 (1.27)	3.74 (1.33)	3.58 (1.43)	3.5 (1.32)	3.76 (1.34)

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Table 2Prenatal Correlations

												•
(0.06)	90.0		-0.13	-0.18^{*}	0.17^{*}	0.00	-0.17	-0.06	-0.14	-0.19*	-0.21**	2. Work-family conflict
90.0-	(0.93***)		-0.07	0.12	-0.05	90.0	80.0	0.09	80.0	0.01	0.08	1. Income
0.26**	0.14	$\overline{}$	-0.37***	-0.29***	0.22**	0.21**	-0.22**	-0.06	-0.26***	-0.16^{*}	-0.31***	0. Neuroticism
-0.29***	-0.01		(0.12)	0.36***	-0.36***	-0.29***	0.23**	-0.03	0.19*	0.27***	0.37). Agreeableness
-0.30***	-0.04		0.32***	(0.10)	-0.43	-0.34***	0.46***	-0.07	0.22**	0.53***	0.53	3. Support-seeking
0.28	0.01		-0.28***	-0.42***	(0.43***)	0.24**	-0.41^{***}	0.02	-0.24**	-0.48***	-0.54***	. Negative social exchange
0.15	0.12		-0.11	-0.51***	0.25**	(0.17*)	-0.32***	0.08	-0.09	-0.28***	-0.29***	6. Attachment avoidance
-0.10	0.04		0.03	0.30***	-0.41^{***}	-0.30***	(0.54***)	-0.13	0.27***	0.59***	0.48	5. Marital satisfaction
0.04	0.12		-0.02	-0.06	0.01	0.02	-0.04	(0.87**)	-0.03	90.0-	-0.04	Farental stress
-0.04	0.03		90.0	0.23	-0.18^{*}	-0.15	0.15	0.01	(0.24*)	0.25**	0.15	3. Behavioral responsiveness
-0.21**	-0.13		0.13	0.47***	-0.32***	-0.48***	0.50***	-0.17*	0.25**	(0.44***)	0.61^{***}	2. Perceived partner responsiveness
-0.20*	-0.06	-0.27***	0.20*	0.45***	-0.40***	-0.32***	0.40***	-0.12	0.23**	0.55	(0.23)	1. Individual's responsiveness
12	11	10	6	8	7	9	5	4	3	2	1	Variable

Female correlations are below the diagonal; male correlations are above the diagonal. Interpartner correlations are in parentheses on the diagonal

did not differ significantly on any of our primary predictors, but completers tended to be more satisfied with their relationships (see the online Supplemental Material for details). We also evaluated the unconditional growth curve model predicting relationship satisfaction, examining the linear and quadratic effects of time. The quadratic model did not fit the data better than the linear model, $\chi^2(1) = 2.4$, p = .12. Given this model fit, and because we had no a priori reasons to expect nonlinear effects, linear effects of time were focused on in the models reported below.

Primary Analyses

Responsiveness Providing

To test Hypotheses 1 and 2, we examined whether providing responsiveness to one's partner moderated by parental stress predicted changes in actor's relationship satisfaction (see Table 3). Supporting Hypothesis 1, we found a main effect of actor responsiveness providing. It indicated that lower actor responsiveness providing predicted declines in relationship satisfaction at the subsequent assessment. Supporting Hypothesis 2, we found an interaction between actor responsiveness providing and actor parental stress. It revealed that under high levels of parental stress (+1 SD), increases in actor responsiveness providing predicted declines in relationship satisfaction at the subsequent assessment. However, under low levels of parental stress (-1 SD), increases in actor responsiveness providing predicted increases in relationship satisfaction at the subsequent assessment (see Figure 1A). These results did not differ significantly for men and women.

Perceived Partner Responsiveness

To test Hypotheses 3 and 4, we examined whether actor's perceptions of their partner's responsiveness moderated by actor's parental stress predicted changes in actor's relationship satisfaction (see Table 4). Supporting Hypothesis 3, we found a main effect of actor perceived partner responsiveness. It confirmed that lower actor perceived partner responsiveness predicted declines in actor's relationship satisfaction at the subsequent assessment. Supporting Hypothesis 4, we also found an interaction between actor's perceived partner responsiveness and actor's parental stress. It revealed that under high levels of parental stress (+1 SD), increases in actor's perceived partner responsiveness predicted no change in their relationship satisfaction at the subsequent assessment, but under low levels of parental stress (-1 SD), increases in actor's perceived partner responsiveness predicted increases in their relationship satisfaction at the subsequent assessment (see Figure 1B). These results did not differ significantly for men and women.

Control Analyses

All the significant effects reported remained significant controlling for potential confounds: actor's and partner's levels of prenatal relationship satisfaction, agreeableness, neuroticism, supportseeking, work-family conflict, income, age, and education.

Post Hoc Analyses

To determine why providing greater responsiveness had adverse effects under high stress, we next examined whether one

 Table 3

 Responsiveness Providing Model

Model	Estimate	SE	df	t value	p	Lower	Upper
(Intercept)	41.853	0.263	173.666	159.088	<.001	41.334	42.360
Time	-0.020	0.019	372.338	-1.020	0.308	-0.057	0.0209
Sex	-0.112	0.117	606.237	-0.958	0.342	-0.340	0.116
Actor relationship satisfaction	0.477	0.031	548.479	15.491	<.001	0.362	0.598
Actor responsiveness providing	0.602	0.206	350.542	2.922	0.004	0.185	1.001
Partner responsiveness providing	0.190	0.188	284.095	1.014	0.311	-0.203	0.570
Sex × Actor responsiveness providing	-0.124	0.193	346.315	-0.641	0.522	-0.502	0.249
Sex × Partner responsiveness providing	0.342	0.194	348.406	1.765	0.078	-0.039	0.715
Actor responsiveness providing × Actor parental stress	-0.084	0.030	994.545	-2.783	0.005	-0.143	-0.025
Partner responsiveness providing × Partner parental stress	0.004	0.030	986.673	0.122	0.903	-0.055	0.064
Sex \times Actor responsiveness providing \times Actor parental stress	0.020	0.233	721.556	0.087	0.931	-0.433	0.4812
Sex × Partner responsiveness providing × Partner parental stress	0.007	0.233	724.912	0.029	0.977	-0.454	0.461

Note. This model contains four lags (i.e., $T1 \rightarrow T2$, $T2 \rightarrow T3$, $T3 \rightarrow T4$, $T4 \rightarrow T5$). Predictors were assessed at the prior wave and the outcome was assessed at the latter wave. All fixed effect variables were grand-mean centered.

theoretically relevant dispositional factor (attachment avoidance) and one relational factor (negative social exchange with one's partner) moderated the effect of actor's responsiveness providing and parental stress on changes in actor's relationship satisfaction. Table 5 contains the avoidance results, and Table 6 contains the negative social exchange results. Attachment avoidance significantly moderated the effect of actor's responsiveness providing and parental stress on changes in actor's relationship satisfaction. As shown in Figure 1C, actors who reported higher responsiveness providing (+1 SD) and higher stress (+1 SD) also reported greater declines in relationship satisfaction when they scored high in attachment avoidance (+1 SD), but not when they scored low in avoidance (i.e., were more secure; -1 SD). Moreover, negative social exchange also significantly moderated the effect of actor's responsiveness providing and parental stress on changes in their relationship satisfaction. As shown in Figure 1D, actors who reported higher responsiveness providing (+1 SD) and higher stress (+1 SD) also reported greater declines in relationship satisfaction when they experienced more negative social exchanges with their partner in their relationship (+1 SD), but not when they experienced fewer negative social exchange (-1 SD).

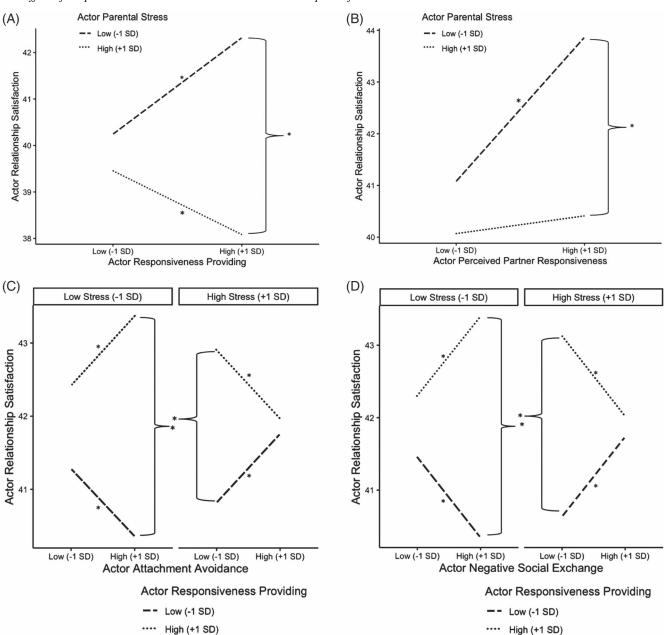
Discussion

This study investigated how perceptions of partner responsiveness are associated with changes in relationship satisfaction among new parents during the first 2 years of the transition to parenthood. The results shed light on both the benefits of responsiveness as well as specific contexts in which higher levels of responsiveness are associated with declines in relationship satisfaction. Specifically, we found that lower levels of perceived provision and receipt of responsiveness generally predicted declines in relationship satisfaction, whereas higher levels of perceived provision and receipt of responsiveness when parental stress was low forecasted increases in relationship satisfaction. These findings are consistent with the growing literature on responsiveness, which has revealed robust, positive outcomes for responsive support. Because many new parents report declines in relationship satisfaction across the transition to parenthood (Cowan & Cowan, 2000), increases in satisfaction among highly responsive new parents who are experiencing lower levels of stress confirm the typical benefits of greater responsiveness.

Importantly, however, we also found effects that are less consistent with the prior responsiveness literature. Among those who reported both higher parental stress and higher provision of responsiveness across the transition, relationship satisfaction declined. This study, therefore, also identifies some negative outcomes associated with high levels of responsiveness when enacted by certain people in certain relationships across the transition to parenthood. These novel findings are consistent with another transition to parenthood study (Kuile et al., 2017), which found that partners who reported being above average in responsiveness before pregnancy reported *poorer* adaptation to parenthood over the transition. These authors posit that providing more responsive support may strain responsive partners' limited psychological resources, leading them to experience more negative relationship outcomes. Our study provides corroborating evidence consistent with this view. In doing so, we identify some important boundary conditions regarding the role of responsiveness in sustaining relationship satisfaction across time.

In post hoc analyses, we examined theoretically relevant individual and interpersonal variables that might promote declines in relationship satisfaction among partners high in both parental stress and responsive behavior. Our findings reveal that new parents high in both parental stress and perceptions of their own responsiveness experienced the largest declines in relationship satisfaction, particularly when they reported being more avoidantly attached or having more negative social interactions with their partner. These findings are consistent with prior research on avoidant attachment and close relationships, some of which indicates that supporting others is psychologically beneficial to support providers if they can choose to offer support (Inagaki & Orehek, 2017). Moreover, personal agency in support provision is especially important for highly avoidant people given their strong need for autonomy, independence, and control in relationships (Mikulincer, 1998). Indeed, during the parenthood transition, avoidantly attached partners are less satisfied with their relationships when their autonomy is threatened or limited (Kohn et al., 2012). Highly responsive partners who are highly avoidant, therefore, should struggle with feeling obligated to provide responsive support when they feel overwhelmed by parental stress, which should erode their satisfaction. Moreover, having negative social exchanges with one's partner should also precipitate

Figure 1
The Effect of Responsiveness and Parental Stress on Relationship Satisfaction



declines in satisfaction based on the established association between attachment avoidance and heightened relationship conflict during the transition to parenthood (Simpson & Rholes, 2019).

We also found a unique pattern of results with respect to the way in which parental stress might impact the association between responsiveness and relationship satisfaction. When both relationship partners experience less parental stress, it should be easier for both of them to enact more responsive support. When parental stress is high, however, the challenge of being highly responsive may overwhelm chronically taxed partners. If so, these new parents may find themselves working harder to resolve daily problems

that have ambiguous or poor outcomes, further eroding their sense of autonomy, independence, and control. Although receiving high responsiveness should be appreciated by partners who are dealing with high or increasing stress, certain individuals may feel "overtaxed" by having to provide the high level of responsiveness needed to support their partner. Alternatively, they may learn that their responsiveness becomes less effective when stress is high. Feeling obligated in a situation in which they experience diminished control—especially for highly avoidant responsiveness providers—may generate additional stress and conflict within the relationship, further undermining relationship quality.

Table 4Perceived Partner Responsiveness Model

Model	Estimate	SE	df	t value	p	Lower	Upper
(Intercept)	41.801	0.243	275.503	171.836	<.001	41.326	42.257
Time	-0.005	0.020	238.945	-0.249	0.823	-0.042	0.033
Sex	-0.207	0.105	544.863	-1.973	0.048	-0.411	-0.001
Actor relationship satisfaction	0.520	0.032	942.262	16.477	<.001	0.447	0.598
Actor perceived responsiveness	0.766	0.178	866.649	4.294	<.001	0.419	1.114
Partner perceived responsiveness	0.285	0.157	751.471	1.808	0.071	-0.037	0.599
Sex × Actor perceived responsiveness	0.047	0.1656	454.844	0.285	0.776	-0.273	0.371
Sex × Partner perceived responsiveness	0.156	0.1644	439.230	0.946	0.345	-0.168	0.473
Actor perceived responsiveness × Actor parental stress	-0.060	0.028	1070.010	-2.175	0.028	-0.115	-0.006
Partner perceived responsiveness × Partner parental stress	0.020	0.028	1069.094	0.734	0.463	-0.034	0.074
Sex × Actor perceived responsiveness × Actor parental stress	-0.187	0.205	730.803	-0.915	0.360	-0.586	0.212
Sex \times Partner perceived responsiveness \times Partner parental stress	-0.036	0.204	731.206	-0.174	0.862	-0.434	0.364

Note. This model contains four lags (i.e., $T1 \rightarrow T2$, $T2 \rightarrow T3$, $T3 \rightarrow T4$, $T4 \rightarrow T5$). Predictors were assessed at the prior wave and the outcome was assessed at the latter wave. All fixed effect variables were grand-mean centered.

Implications for Clinical Interventions

The findings of this study suggest that clinical interventions for new parents may need to be targeted differently depending on a couple's personal, interpersonal, and contextual attributes. In many cases, couples may benefit from the facilitation of interpersonal skills and social cognitions that boost each partner's ability to enact responsive behavior and recognize responsiveness when it is offered by their partners. For highly responsive partners who are highly avoidant, however, it may be more useful to promote coping strategies that focus less on improving their provision of responsiveness and more on enhancing their sense of autonomy and personal control. This could include strategies that help one or both partners cope with stress as individuals rather than as a couple. For example, self-compassion (Neff & Beretvas, 2013) practiced by both relationship partners may decrease the level of support

expected of highly responsive partners who are feeling stressed. It may also help them prioritize attending to and reducing their own level of stress when they feel overwhelmed.

Considering that highly responsive partners who reported lower parental stress in our study did not report declines in relationship satisfaction, the current findings also highlight the need for more targeted clinical efforts designed to promote stress reduction strategies alongside responsiveness promotion, especially among new parents entering the transition to parenthood. Although training relationship partners to be more responsive (or to attribute benevolence when their partners act responsively) should yield more positive interpersonal benefits in partners who tend to be less responsive, interventions targeted to highly responsive partners may also be more effective if they focus on reducing the stress associated with new parenthood.

 Table 5

 Attachment Avoidance Post Hoc Moderation Analysis

Model	Estimate	SE	df	t value	p	Lower	Upper
(Intercept)	41.801	0.266	182.876	157.133	<.001	41.267	42.327
Time	-0.008	0.019	345.351	-0.414	0.679	-0.047	0.033
Sex	-0.079	0.116	70.202	-0.684	0.496	-0.306	0.147
Actor relationship satisfaction	0.491	0.031	582.197	15.839	<.001	0.375	0.605
Actor responsiveness providing	0.805	0.205	346.018	3.933	<.001	0.393	1.204
Partner responsiveness providing	0.150	0.187	266.867	0.805	0.421	-0.240	0.528
Sex × Actor responsiveness providing	-0.171	0.198	335.775	-0.865	0.388	-0.556	0.211
Sex × Partner responsiveness providing	0.408	0.198	338.128	2.059	0.040	0.018	0.791
Actor responsiveness providing × Actor parental stress	-0.233	0.212	958.071	-1.101	0.271	-0.651	0.177
Partner responsiveness providing × Partner parental stress	0.143	0.212	962.345	0.674	0.500	-0.266	0.563
Sex \times Actor responsiveness providing \times Actor parental stress	-0.079	0.233	721.590	-0.339	0.735	-0.532	0.383
Sex \times Partner responsiveness providing \times Partner parental stress	0.061	0.233	724.082	0.264	0.792	-0.401	0.514
Actor responsiveness providing × Actor parental stress × Actor attachment avoidance	-0.464	0.198	870.285	-2.341	0.019	-0.866	-0.082
Partner responsiveness providing × Partner parental stress × Partner attachment avoidance	0.262	0.198	847.934	1.327	0.185	-0.133	0.644
Sex × Actor responsiveness providing × Actor parental stress × Actor attachment avoidance	-0.065	0.197	878.288	-0.331	0.741	-0.447	0.327
Sex \times Partner responsiveness providing \times Partner parental stress \times Partner attachment avoidance	-0.455	0.197	868.201	-2.315	0.021	-0.836	-0.057

Note. This model contains four lags (i.e., $T1 \rightarrow T2$, $T2 \rightarrow T3$, $T3 \rightarrow T4$, $T4 \rightarrow T5$). Predictors were assessed at the prior wave and the outcome was assessed at the latter wave. All fixed effect variables were grand-mean centered.

 Table 6

 Negative Social Exchange Post Hoc Moderation Analysis

Model	Estimate	SE	df	t value	p	Lower	Upper
(Intercept)	41.706	0.263	200.107	158.440	<.001	41.173	42.236
Time	0.003	0.019	341.245	0.151	0.880	-0.037	0.041
Sex	-0.067	0.110	59.173	-0.605	0.547	-0.280	0.148
Actor relationship satisfaction	0.538	0.030	398.787	17.660	<.001	0.464	0.620
Actor responsiveness providing	0.827	0.198	262.634	4.170	<.0001	0.440	1.210
Partner responsiveness providing	0.129	0.181	205.514	0.709	0.479	-0.227	0.482
Sex × Actor responsiveness providing	-0.114	0.193	276.737	-0.591	0.555	-0.490	0.261
Sex × Partner responsiveness providing	0.349	0.194	279.888	1.804	0.072	-0.028	0.725
Actor responsiveness providing × Actor parental stress	-0.133	0.216	971.450	-0.615	0.538	-0.554	0.289
Partner responsiveness providing × Partner parental stress	0.120	0.216	977.762	0.555	0.579	-0.301	0.541
Sex \times Actor responsiveness providing \times Actor parental stress	-0.008	0.236	733.856	-0.032	0.974	-0.467	0.455
Sex × Partner responsiveness providing × Partner parental stress	0.053	0.236	738.757	0.225	0.822	-0.412	0.513
Actor responsiveness providing × Actor parental stress × Actor negative social exchange	-0.551	0.159	972.687	-3.452	0.001	-0.862	-0.241
Partner responsiveness providing × Partner parental stress × Partner negative social exchange	0.062	0.158	969.683	0.389	0.697	-0.247	0.371
Sex × Actor responsiveness providing × Actor parental stress × Actor negative social exchange	-0.193	0.156	912.397	-1.237	0.216	-0.498	0.110
Sex × Partner responsiveness providing × Partner parental stress × Partner negative social exchange	-0.240	0.156	911.911	-1.539	0.124	-0.544	0.065

Note. This model contains four lags (i.e., $T1 \rightarrow T2$, $T2 \rightarrow T3$, $T3 \rightarrow T4$, $T4 \rightarrow T5$). Predictors were assessed at the prior wave and the outcome was assessed at the latter wave. All fixed effect variables were grand-mean centered.

Caveats and Implications for Further Research

The present study has some limitations. First, our sample was predominately white and homogeneous. Future research should explore whether our findings replicate in new parents from different cultures, particularly given cultural variability in the availability of additional people (e.g., other family members) to rely on for support and different cultural norms and expectations regarding support associated with parenting. Second, our responsiveness measure was constructed for this study. The scale, however, is face valid and evidence for its validity, which is reported in the supplement, is reasonably good. Moreover, we replicate prior, well-established effects showing that greater responsiveness during a less stressful period of life (prior to childbirth) is associated with higher relationship satisfaction. Third, we statistically controlled for several demographic variables including age, education, income, marital status, each of which tend to covary with relationship satisfaction. Although controlling for these variables did not alter our results, these factors might still affect relationship satisfaction during chronically stressful life events. Fourth, although both provided and received responsiveness are important contributors to changes in relationship satisfaction, we were unable to examine them in a unified model because they were too highly correlated with each other to create a parsimonious model. Future research should examine the effect of discrepancies in reported and partner perceived responsiveness on relationship satisfaction over time. Finally, our study was not experimental, limiting the strength of our claims to associations rather than causal links. However, we did analyze our data using stringent lagged models, establishing temporal precedence and increasing our confidence in the directionality of the associations between responsiveness, parental stress, and relationship satisfaction.

This study also has some potentially important implications for our understanding of responsiveness in different contexts. While some of our results align well with the positive outcomes typically found for responsiveness in prior studies, most prior studies have not examined responsiveness during major life transitions. The present study, therefore, illuminates some potential limitations to the widespread benefits of responsiveness, especially during chronically stressful times. Future research should focus on the outcomes of highly responsive partners, especially since most previous research has investigated outcomes associated with receiving responsiveness and the psychological mechanisms that generate declines in key relationship variables such as satisfaction. Given that partner responsiveness is an "organizing construct" within the study of relationships (Reis et al., 2004), relationship scientists need to examine this construct in finer detail to more fully understand when, where, and how responsive support is and is not associated with relationship well-being.

This study also points to the need to devote more attention to the effects of stress across major life transitions. For example, we need to better understand how partners jointly cope successfully during chronically stressful periods of life in view of the fact that interpersonal processes that normally buffer stress and promote well-being may not be as effective—or could even be detrimental—during chronically stressful times. Effective coping may, for example, involve balancing and tailoring the quantity and quality of responsive support offered to a partner in relation to the level of stress a couple is currently experiencing (Eller & Simpson, 2020).

Conclusion

In conclusion, becoming a parent is a significant transition in the life course of individuals and the trajectory of their romantic relationships. This transition typically ushers new forms of chronic stress into relationships, which partner responsiveness can partially mitigate. Our findings, however, paint a more complex picture of how partners cope with stress interpersonally given that the

provision of greater responsiveness is associated with declines in relationship satisfaction among highly responsive partners who also report higher levels of parental stress. Future research needs to identify the specific individual and dyadic processes associated with providing responsiveness, particularly under chronically stressful conditions.

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