


# Support Processes Predict Declines in Attachment Avoidance Across the Transition to Parenthood

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W. Steven Rholes<sup>1</sup> , Jami Eller<sup>2</sup>, Jeffry A. Simpson<sup>2</sup> , and  
Ximena B. Arriaga<sup>3</sup>

## Abstract

Attachment orientations in adulthood can change over time, but the specific circumstances that directly affect change are not well understood. Bowlby proposed that those circumstances involve the assimilation of information that is incongruent with an individual's existing attachment orientation and underlying working models. In this study, 137 couples transitioning to parenthood were followed across the first 2 years of their firstborn child's life, with both partners providing data at five time-points. Only changes in attachment avoidance were examined in this study. Consistent with predictions, downward changes in avoidance were associated with relationship events that introduced information inconsistent with avoidant working models. For example, people who provided more support to their partners declined in avoidance across the transition period. We discuss these findings and new directions needed to better understand when and how attachment orientations change during major life transitions.

## Keywords

attachment theory, avoidance, support, transition to parenthood

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“There is certain information . . . that we find difficult to process. One example is information that is incompatible with our existing [working] models. In general, when new information clashes with established models . . . an old model may become replaced by a new one. Nevertheless, much evidence exists that we undertake such replacement only very reluctantly . . . to dismantle a model which has played and is still playing a major part in our daily life and to replace it by a new one is a slow and arduous task, even when the new situation is in principle welcome.”

—Bowlby (1980, pp. 230–231).

Inspired by this quote, the present study examines the processes through which attachment orientations (styles)—how individuals think, feel, and behave toward their romantic partners—change across the transition to parenthood. Although there is considerable stability in attachment orientations over time (Stern et al., 2018), Bowlby (1988) hypothesized that changes in working models (i.e., the behavioral, cognitive, and affective schemas underlying attachment orientations) are more likely to occur under specific circumstances. He claimed, for example, that working models should be more malleable and open to change when people

encounter new, stressful events that activate their attachment systems and allow them to discover new ways of thinking, feeling, or behaving with their attachment figures. Transition periods, such as the transition to marriage or parenthood, are times when new information about attachment-relevant events and attachment figures tends to be salient and should be opportune times for new information to alter both working models and attachment orientations (see Bowlby, 1988; Simpson et al., 2003).

In this research, we examine whether and how theoretically relevant features of romantic relationships (e.g., support provision) are systematically related to declines in attachment avoidance across the first 2 years of the transition to parenthood. We examine avoidance separately from anxiety because a recent model of change in attachment

<sup>1</sup>Texas A&M University, College Station, USA

<sup>2</sup>University of Minnesota, Twin Cities, Minneapolis, USA

<sup>3</sup>Purdue University, West Lafayette, IN, USA

## Corresponding Author:

W. Steven Rholes, Department of Psychology, Texas A&M University,  
4235, College Station, TX 77840, USA.  
Email: S-Rholes@tamu.edu

orientations (Arriaga et al., 2018) suggests that avoidance and anxiety may change via different processes.

### Working Models, Attachment Orientations, and Characteristics of Avoidant People

Attachment orientations reflect habitual forms of thinking, feeling, and behaving within close relationships. Working models are the cognitive, affective, and behavioral schemas and memories associated with attachment experiences involving past or current attachment figures that guide attachment-relevant behavior. As such, they shape perceptions, memories, defense mechanisms, and other cognitive, emotional, and behavioral processes (Bowlby, 1973, 1980). The content of working models includes individuals' perceptions and views of *themselves* as relationship partners (the model of the self), their *attachment figures* (relationship-specific models of the other), and *attachment figures in general* (relationship-general/global models of others).

According to attachment theorists (e.g., Bowlby, 1973, 1980; Mikulincer & Shaver, 2003, 2016; Simpson & Rholes, 2012), adults who have an avoidant attachment orientation fear being rebuffed by their attachment figures if they try to seek comfort or support from them. To defend against the possible pain of rejection, they circumvent becoming vulnerable in their relationships (Carvallo & Gabriel, 2006). Recent research has broadened the set of concerns that underlie and motivate avoidant tendencies, revealing that avoidant people worry about receiving emotionally insensitive treatment from their attachment figures as well as inconsistencies or gaps in the availability of intimacy with their romantic partners (e.g., Gere et al., 2013; Spielmann et al., 2013). These concerns are consistent with Bowlby's view of avoidance as emanating from the fear of an attachment figure's negative reactions if one were to seek comfort or support.

To protect themselves, avoidant individuals perceive themselves as emotionally invulnerable, view seeking care and support as a personal weakness, and cope with difficulties in a self-reliant manner (Bowlby, 1973; Mikulincer & Shaver, 2016). They also are reluctant caregivers (Bowlby, 1979) and avoid depending on others or having others depend on them (Mikulincer & Shaver, 2016). Not surprisingly, avoidant people also report lower satisfaction and commitment to their relationships, as do their partners (J. A. Feeney, 2008; Simpson, 1990), are less trusting of their partners (Simpson, 1990), and lack skills to resolve relationship conflicts effectively (Campbell et al., 2005; Simpson et al., 1996). One important goal of avoidant individuals is to keep their attachment systems deactivated (Mikulincer & Shaver, 2003), which allows them to suppress thoughts, emotions, or memories associated with their difficult attachment histories.

### Change in Working Models and Attachment Orientations

According to attachment theorists (e.g., Bowlby, 1973; Fraley & Brumbaugh, 2004), working models are not fixed; even in adulthood, they are open to change in response to new attachment-relevant experiences, especially with current attachment figures. However, working models do not change easily (Bowlby, 1980; Fraley et al., 2011), with several factors making them resistant to change. One is the tendency to dismiss information that is inconsistent with their attitudes, beliefs, or values (e.g., Lord et al., 1979). Other tendencies that sustain existing working models are to ignore, deny, or distort incoming information to suppress activation of the attachment system (Bowlby, 1980; Collins et al., 2006). The increasingly automated nature of working models over time renders them less open to inspection and reflection, which makes change even more difficult (Bowlby, 1980; Bretherton & Munholland, 2008).

Despite these sources of resistance, changes in attachment orientations and their underlying working models do occur. Several studies have identified risk factors for increases in *insecurity* across time, such as having personality disorders among family members (Davila et al., 1997), lacking clarity in one's working models (Davila & Cobb, 2003), or having lower marital satisfaction (Davila et al., 1999). There also are factors that uniquely predict increases in *security* across time in avoidant individuals, such as experiences that foster trust (Arriaga et al., 2014). Moreover, individuals can become less avoidant through support processes. Simpson et al. (2003) found that men who perceived they were providing more support to their spouses became less avoidant across the first 6 months of the transition to parenthood, and women who perceived they were seeking more support from their partners became less avoidant.

This study and research by Simpson et al. (2003) both examined support processes, but differ in their design, measures, and in several other important ways. The study by Simpson et al. (2003) had a prenatal–postnatal design that investigated changes in attachment over a 6-month period based solely on self-reported data. This study followed first-time parents across 2 years (five waves of assessment), allowing us to determine whether our findings are limited to the earliest months of the transition. Importantly, this study also includes behavioral measures of support to provide more rigorous tests of key predictions, expands the examination of avoidance-relevant processes by including several new support measures, and tests novel predictions about how changes in avoidance forecast changes in marital satisfaction and negative social exchange processes over time.

One of the new predictor measures is giving proximal care, which differs from general caregiving by involving physical comfort, closeness, and touch (Kunce & Shaver, 1994). Ainsworth et al. (1978) found that mothers of avoidant infants were less likely than other mothers to comfort

their infants with physical contact. In a study of adult dating partners, Simpson et al. (1992) found that more avoidant people were less likely to touch their distressed partners to comfort them, and touch was poorly received by avoidant individuals when it occurred. Touch, therefore, may have special significance for avoidant persons, which warrants its separate examination relative to general support giving.

Most prior research on various types of support has focused on perceptions of support. These perceptions, however, should be at least partially grounded in actual support behaviors, so we also had objective raters assess support-giving behavior during conversations between couples. As described below, raters coded two forms of supportive behavior: general support and responsiveness. Responsiveness, which includes understanding, validating, and providing care to one's partner, fosters the type of trust in one's partner (Reis et al., 2004) that is strongly linked to declines in attachment avoidance (Arriaga et al., 2014). Responsiveness should have similar effects on reducing avoidance as other forms of care and support, thus providing stronger and broader evidence of the role that support and care may assume in changing avoidance over time. Like proximal caregiving, responsiveness distinguishes this study from our previous research (Simpson et al., 2003).<sup>1</sup>

### **Bowlby's Model of Change in Working Models and Attachment Orientations**

Bowlby (1973, 1980) proposed a model of change in working models and attachment orientations based on incongruences between attachment-relevant experiences and core aspects of working models (see Fraley & Brumbaugh, 2004). One source of incongruence involves the receipt and assimilation of new information that clearly contradicts an important tenet of one's current working model, such as when new behavior enacted by either one's attachment figure or oneself contradicts one's current working model. Bowlby (1973) believed that newly encountered, inconsistent information is difficult to process and is often processed incompletely or inaccurately. However, he also claimed that repeatedly encountering inconsistent information that is ultimately accepted as both true and important makes it difficult to sustain one's current working model. For example, novel experiences that encourage intimacy generate declines in avoidance assessed 1 month later, arguably because positive moments of intimacy challenge avoidant individuals' entrenched beliefs about the risks of becoming intimate with their partners (Stanton et al., 2017). Such experiences should reduce a person's degree of avoidance, independent of their mean level of avoidance, even though highly avoidant people have more room to decline.

### **The Transition to Parenthood and The Current Study**

One of the great paradoxes of the transition to parenthood is that new parents experience both unparalleled happiness and significant stress (Cowan & Cowan, 2000; Simpson & Rholes, 2019). This sensitive period creates an opportunity for changes within individuals and relationships. Indeed, individual and relationship functioning and dynamics shift dramatically in the months following childbirth (e.g., Belsky & Rovine, 1990; Nelson-Coffey et al., 2019; Twenge et al., 2003). New parents may be particularly attuned and reactive to their own and their partner's behaviors, allowing for moments in which changes in working models and attachment orientations are more likely to occur (Bowlby, 1988).

This research, therefore, examined experiences when either a *partner's behavior* or *one's own support behavior* are inconsistent with avoidant working models. Specifically, we examined (a) whether and how perceptions of one's own support provision, responsiveness, and proximal caregiving directed toward the partner during the transition to parenthood forecasts downward changes (declines) in one's own level of avoidance, and (b) whether and how one's perceptions of the partner's support provision, responsiveness, and proximal caregiving forecasts downward changes (declines) in one's own avoidance. We also investigated how seeking support from one's partner forecasts changes in one's own level of avoidance (similar to Simpson et al., 2003), how observer-rated behavioral support and responsiveness are related to changes in avoidance, and whether decreases in avoidance are associated with decreases in negative interactions and increases in relationship satisfaction in dyad members.

As discussed above, highly avoidant people do not like to seek support from their partners and, in return, they do not expect to receive support from their partners (Simpson et al., 1992), particularly when they are upset. Other studies have confirmed that support-seeking is less characteristic of highly avoidant people (e.g., Lynch, 2013). Mikulincer and Shaver (2016) discuss several ways in which avoidant working models and support-seeking conflict with one another. Seeking support, for example, can undermine the autonomy and self-reliance that avoidant people crave, which makes it starkly inconsistent with their working models.

Providing care and giving support are also inconsistent with avoidant working models. Bowlby (1979) described avoidant people as being "terrified" of having to become a caregiver, and research has confirmed that they are reluctant to provide support to their partners (B. C. Feeney & Collins, 2003; Reizer et al., 2012, 2014). Consequently, providing care and support should be strongly inconsistent with avoidant models (Arriaga et al., 2018). Furthermore, receiving support from partners is inconsistent with avoidant people's negative models of others, which includes the

expectation that others will not be supportive and might even be rejecting (Collins & Feeney, 2004; Stanton & Campbell, 2014). Such palpable perceptions of behavioral inconsistencies should decrease avoidance, and, in turn, alter relationship evaluations.

Decreases in avoidance can be consequential. Numerous studies have documented that higher levels of avoidance are associated with lower satisfaction and more destructive interactions (Mikulincer & Shaver, 2016). If, therefore, avoidance is an operative factor in these outcomes, decreases in avoidance should lead satisfaction to increase and negative interactions to decrease across time, which would provide novel insights into the role of avoidance in generating these changes.

Guided by these ideas and prior findings, we conducted a 2-year longitudinal study of first-time parents. We collected data from both mothers and fathers starting approximately 6 weeks before childbirth and then at Months 6, 12, 18, and 24 postpartum, which included self-report measures of attachment orientations, perceptions of support-seeking, perceptions of support and proximal care both given to and received from their partner, relationship satisfaction, and negative social exchanges. At the 6-month postnatal period, couples visited our lab and engaged in video-recorded discussions about something they wanted to change about themselves now that they were parents. Each couple had two discussions: one in which the female discussed something she wanted to change (i.e., the female was the potential support recipient), and another in which the male discussed something that he wanted to change (i.e., the male was the potential support recipient). This behavioral support-giving data permitted a novel test of support-giving behavior in relation to long-term declines in avoidance.

We tested five hypotheses:<sup>2</sup>

**Hypothesis 1:** Greater *perceptions of receiving* (a) support and (b) proximal care from a partner should predict greater declines in avoidance across the transition to parenthood.

**Hypothesis 2:** Greater *perceptions of giving* (a) support and (b) proximal care to a partner should predict declines in actors' levels of avoidance across the transition.

**Hypothesis 3:** Greater *perceptions of seeking* support from a partner should predict declines in avoidance across the transition.

**Hypothesis 4:** Couple members who are observed providing more support and responsiveness to their partner during video-recorded discussions should decline in avoidance measured later during the transition.

**Hypothesis 5:** Declines in avoidance during the transition should predict increases in relationship satisfaction and decreases in negative social exchange with a partner across the transition.

## Method

### Participants

A total of 192 cohabiting couples expecting their first child were recruited from childbirth classes in a Southwestern city in the United States. At Time 1, 192 couples participated. Fifty-five couples dropped out by Time 5 (24 months after childbirth), resulting in a complete sample of 137 complete dyads (144 women, 137 men).

At Time 1, 95% of the couples were married for a mean of 3.3 years ( $SD = 2.6$ ). The other 5% were cohabitating for a mean of 1.85 years ( $SD = 2.2$ ). On average, male partners were 28.4 years old ( $SD = 4.4$ ) and female partners were 26.7 years old ( $SD = 4.1$ ). Most participants (82%) were Caucasian, 9% were Asian, and 9% were Hispanic. All but 6% of participants had some college education.

### Procedure

Couples were recruited from childbirth preparation classes and fliers distributed at local hospitals. To participate, couples had to be (a) expecting their first child, and (b) married or cohabitating. Data collection occurred across five assessment waves: 6 weeks before each couple's expected due date (Time 1) and then approximately 6 months (Time 2), 12 months (Time 3), 18 months (Time 4), and 24 months (Time 5) after childbirth. At each wave, both partners were mailed a questionnaire (in separate, prestamped envelopes) and instructed to complete and return the questionnaires without consulting one another. At Time 2, each couple visited the lab and completed two video-recorded discussions, one in which the female was the support recipient, and one in which the male was the support recipient. For each 8-min discussion, one partner identified a personal characteristic or habit that they wanted to change and the other partner was instructed to discuss the issue with their partner, *without* being told to provide support (adapted from Pasch & Bradbury, 1998).

Each couple was paid US\$50 for completing their questionnaires at each of the first three assessment waves (Times 1–3), US\$75 for completing the in-lab session at Time 2, and US\$75 for completing the Time 4 and Time 5 questionnaires (to minimize attrition). Each couple was also entered into a drawing for two US\$500 cash prizes if they completed all five assessment waves.

### Measures

Participants completed self-report measures at each assessment wave. Only the scales relevant to this study are reported below.

**Attachment orientations.** Attachment avoidance and anxiety were assessed using the Experience in Close Relationships Scale (ECR; Brennan et al., 1998). This 36-item scale assesses

participants' global beliefs about partners and relationships *in general*. The 18-item avoidance subscale contains items such as "I am nervous when partners get too close to me" and "I don't feel comfortable opening up to romantic partners." The 18-item anxiety subscale contains items such as "I worry a lot about my relationships" and "My desire to be very close sometimes scares people away." Participants indicated their agreement with each item on a 7-point Likert-type scale, anchored 1 (*strongly disagree*) and 7 (*strongly agree*). Mean scores were computed at each wave, with higher scores indicating greater avoidance or anxiety (and lower scores indicating greater security). Across the five assessment waves, Cronbach alphas ranged from .87 to .96 for women and from .84 to .94 for men on *avoidance*, and from .90 to .96 for women and from .91 to .94 for men on *anxiety*.

**Perceptions of receiving and giving support.** Perceptions of *receiving* social support from the partner were assessed using the Social Support Questionnaire (SSQ; Sarason et al., 1983). This self-report scale first measured the amount of social support each participant perceived *receiving* from his or her partner within the past month at each measurement wave. This seven-item scale contained items such as "Overall, how satisfied are you with the support you receive from your partner/spouse?" These items were answered on a 7-point Likert-type scale, anchored 1 (*not at all*) to 7 (*very much*). Across the five assessment waves, Cronbach alphas ranged from .90 to .96 for women and from .91 to .98 for men.

This scale also measured perceptions of *giving* support to the partner within the past month at each measurement wave. This seven-item scale contained parallel questions such as "Overall, how satisfied should your partner/spouse be with the support you provide him/her?" These items were also answered on a 7-point Likert-type scale, anchored 1 (*not at all*) to 7 (*very much*). Across the five assessment waves, Cronbach alphas ranged from .88 to .91 for women and from .88 to .93 for men.

The Social Provisions Scale (SPS; Cutrona, 1989) was also administered at each wave to assess both perceptions of *receiving* support from the partner and *giving* support to the partner within the past month. The 14-item support-receiving scale contained questions such as "Does your relationship with your partner/spouse provide you with a sense of emotional security and well-being?" These items were answered on a 3-point scale to which participants could respond 1 (*no*), 2 (*maybe/sometimes*), or 3 (*yes*). Across the five assessment waves, Cronbach alphas ranged from .73 to .84 for women and from .68 to .88 for men. The 14-item support-giving scale asked a parallel set of questions such as "Does your partner/spouse's relationship with you provide him/her with a sense of emotional security and well-being?" These items were answered on the same 3-point scale. Across the five assessment waves, Cronbach alphas ranged from .65 to .79 for women and from .60 to .82 for men.

Mean scores were computed for each scale at each assessment wave, with higher scores indicating greater perceived social support and perceived social provisions. The SPS and SSQ were highly correlated (average  $r$  across all assessment waves = .58 for women and .63 for men for perceived received support, and average  $r$  across all assessment waves = .41 for women and .59 for men for perceived support given). Thus, the SSQ and SPS were aggregated to create a single index of received support and given support, with higher scores indicating greater overall perceptions of support. All models reported below, however, revealed the same pattern of results when analyses were also conducted separately for each scale.

**Perceptions of seeking support from the partner.** Support-seeking was assessed using the Support Seeking Scale (MOOS; Moos et al., 1983). This 18-item scale measured how much support participants perceived seeking from their partners during the past month. Support-seeking was assessed with items such as "When I have a problem, this is what I do: Keep it to myself" and "When I have a problem, this is what I do: Go immediately to my partner/spouse." Participants indicated 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 assessment waves, Cronbach alphas ranged from .79 to .87 for women and from .83 to .87 for men. Mean scores were computed at each wave, with higher scores indicating more perceived support-seeking.

**Perceptions of receiving and giving proximal care.** Proximal care was assessed using the Caregiving Scale (Kunce & Shaver, 1994). An eight-item subscale of this measure assessed the amount of physical comfort and physical closeness and care each participant perceived *receiving* from their partner within the past month at each measurement wave, with items such as "When I want or need a hug, my partner is glad to provide it" and "My partner feels comfortable holding me when I need physical signs of support and reassurance." Participants indicated their agreement on a 1 (*disagree strongly*) to 7 (*agree strongly*) Likert-type scale. Cronbach alphas ranged from .88 to .90 for women and from .82 to .90 for men across the five assessment waves. Mean scores were computed at each wave, with higher scores indicating more perceived receipt of proximal care.

We also measured the amount of proximal care each participant perceived *giving* to his or her partner during the past month at each wave. This eight-item scale contains items such as "When my partner wants or needs a hug, I am glad to provide it" and "I feel comfortable holding my partner when he/she needs physical signs of support and reassurance." Participants indicated their agreement on a 1 (*disagree strongly*) to 7 (*agree strongly*) Likert-type scale. Cronbach alphas ranged from .80 to .88 for women and from .86 to .91 for men across the five assessment waves. Mean scores were

computed at each wave, with higher scores indicating more perceived giving of care to the partner.

**Observed behavior: Giving support and being responsive to the partner.** Eight trained coders, four randomly assigned to code only the male partners and four randomly assigned to code only the female partners, independently watched and rated each couple's two support discussions. The ratings focused on the extent to which each potential support provider displayed general support, emotional support, understanding, validation, and caring toward his or her partner when the partner was in the support recipient role during one of the two discussions. These behaviors were factor-analyzed, resulting in two factors: support and responsiveness (see below).

*General support* was defined as overall attempts to assist and aid the support recipient with the stated issue she or he wanted to change. *Emotional support* was defined as support that attempts to make the support recipient feel better, with a focus on the affective experiences the support recipient was having. *Understanding* was defined as expressions of thoughtful consideration and comprehension of the support recipient's issue. *Validation* was defined as expressions of acceptance of the support recipient's thoughts and feelings. *Caring* was defined as expressions of concern and care of the support recipient (see the Supplemental Material).

Coders underwent extensive training on all scales to ensure reliability and accuracy. During training, all discrepancies between coders were addressed with detailed discussions followed by recoding of discrepant ratings. Once training reliabilities reached a reasonable threshold ( $\alpha = .80$ ), coders independently coded the support discussions without consulting one another. Supervisors monitored reliabilities and held regular meetings to prevent coder drift. Each coder focused on the support provider's use of different support behaviors and rated the extent to which each provider displayed general support, emotional support, understanding, validation, and care during each relevant discussion. Ratings were made on 1 (*not at all*) to 7 (*a lot*) Likert-type scales.

The coders had high interrater agreement:  $\alpha = .92$  for men's use of general support ( $M = 4.18, SD = 1.03$ ),  $\alpha = .91$  for women's use of general support ( $M = 4.29, SD = 0.93$ ),  $\alpha = .91$  for men's use of emotional support ( $M = 4.24, SD = 1.05$ ),  $\alpha = .91$  for women's use of emotional support ( $M = 4.32, SD = 0.89$ ),  $\alpha = .77$  for men's use of understanding ( $M = 4.56, SD = 1.22$ ),  $\alpha = .76$  for women's use of understanding ( $M = 5.12, SD = 1.02$ ),  $\alpha = .79$  for men's use of validation ( $M = 4.12, SD = 1.28$ ),  $\alpha = .84$  for women's use of validation ( $M = 4.61, SD = 1.17$ ),  $\alpha = .81$  for men's use of care ( $M = 4.09, SD = 1.35$ ), and  $\alpha = .84$  for women's use of care ( $M = 4.58, SD = 1.19$ ). Mean scores were computed across the coders' ratings, with higher scores indicating more general support, emotional support, understanding, validation, and care, respectively.

**Relationship satisfaction.** Relationship satisfaction was assessed with the satisfaction subscale of the Dyadic

Adjustment Scale (DAS; Spanier, 1976). This 10-item subscale measured how satisfied participants had been with their relationship in the past month with items such as "In general, how often do you think that things between you and your partner/spouse are going well?" and "How often do you and your partner/spouse quarrel?" Participants indicated their agreement on a 1 (*never*) to 6 (*all the time*) Likert-type scale. Across the five assessment waves, Cronbach alphas ranged from .81 to .89 for women and from .83 to .89 for men. Mean scores were computed at each wave, with higher scores indicating more relationship satisfaction.

**Negative social exchange.** Negative social exchange was assessed using the Negative Social Exchange Scale (Finch et al., 1999). This 24-item scale measured how often participants reported behaving in negative ways toward their partner within the last month with items such as "Were insensitive to your partner/spouse" and "Tried to manipulate or influence your partner/spouse for your own benefit." Participants indicated the frequency on a 1 (*never*) to 9 (*frequently*) Likert-type scale. Across the five assessment waves, Cronbach alphas ranged from .95 to .96 for women and from .94 to .97 for men. Mean scores were computed at each wave, with higher scores indicating more negative social exchange (see Supplemental Material for model predicting perceptions of one's partner's negative behavior).

### Data Analytic Method

All data analyses were performed using multilevel modeling for repeated measures with distinguishable dyads (Kenny et al., 2006). This technique accounts for interdependence in responses by nesting responses within each dyad (e.g., between relationship partners) and across time (e.g., within the same person across measurement waves). Interdependence was modeled by estimating the correlation between partners' intercepts and the correlation between partners' Level 1 residuals. *Fixed effects* estimates were included for each predictor. In addition, all models included *random effects* for gender to permit variation in values for men and women. Within-person variability was represented in Level 1, and both between-persons and between-dyads variability were represented in Level 2. Because the transition to parenthood affects men and women differently (e.g., Nelson-Coffey et al., 2019), gender differences were tested in all models (coded  $-1$  for women and  $+1$  for men). Gender was modeled as a within-dyad random effect.

Initially, changes in avoidance were predicted from self-reported perceptions of support and care. *Residual changes* in avoidance were tested using multilevel lagged modeling. In these models, predictor variables from the current measurement wave (e.g., Time 1) predicted participants' avoidance scores at the next wave (e.g., Time 2), controlling for their avoidance scores at the current wave (e.g., Time 1). These models tested for changes from the current wave to the next wave of avoidance. There were four 6-month lags:

Time 1 → Time 2, Time 2 → Time 3, Time 3 → Time 4, and Time 4 → Time 5. The results of the four lags were aggregated within the model to calculate average residual changes in avoidance across the first 2 years of the transition to parenthood. The four lags were collapsed because (a) we had no a priori predictions about specific lag effects, and (b) collapsing lags substantially increased our statistical power to detect small-to-medium size effects. Time was included as a covariate in all lagged models to control for variation in the sample in time of birth. The findings of the lagged models were replicated in traditional Moderated Dyadic Growth Curve Models, but were not as highly powered (see Supplemental Material).

Changes in avoidance were also predicted by behaviorally coded support and responsiveness. *Residual changes* in avoidance were tested using multilevel lagged modeling. However, the prenatal assessment (Time 1) was excluded from these models because the behavioral codes were assessed only at Time 2, making residual change scores that resulted from the behaviors impossible to calculate for the Time 1 → Time 2 lag. In these models, behaviorally coded predictor variables from Time 2 predicted changes in avoidance from Time 2 to each subsequent lag (Time 2 → Time 3, Time 2 → Time 4, and Time 2 → Time 5). The results of the three lags were aggregated to calculate average residual changes in avoidance across the first 2 years of the transition (see the Supplemental Material for additional approaches to analyzing whether behaviorally coded support and responsiveness predicts change in avoidance).

Finally, changes in relationship satisfaction and negative social exchange were predicted from changes in avoidance. *Residual changes* in these measures were tested using multilevel lagged modeling. Change in avoidance was calculated as each participant's slope for avoidance over time extracted from an unconditional growth curve model (see Supplemental Material). In these models, change in avoidance predicted participants' relationship satisfaction or negative social exchange scores at the next wave (e.g., Time 2), controlling for their scores at the current wave (e.g., Time 1). The four lags were aggregated to calculate average residual changes in relationship satisfaction and negative social exchange across the first 2 years of the transition. All previous predictors of change in avoidance were included as covariates to isolate the unique effect attributable to change in avoidance on changes in relationship satisfaction and negative social exchange.

All analyses were completed using *lmer* from the *lme4* package in R (Bates et al., 2015).<sup>3</sup> We encountered no convergence issues when running these models. Restricted maximum likelihood (REML) techniques were utilized in all models, which allows for dyads with incomplete data to be included by weighting their scores proportionate to the number of waves they completed relative to other dyads. We also

included missingness as a moderator in all models. It did not significantly moderate any of the effects reported below.

The self-reported predictors used to predict changes in avoidance (those relevant to Hypotheses 1–3) and changes in relationship outcomes (Hypothesis 5) were person-mean centered. These findings, therefore, reflect participants' scores on a variable at a given time *relative to their own personal mean score* on that variable across time. The behaviorally coded variables (Hypothesis 4) and change in avoidance scores (Hypothesis 5) were time-invariant predictors and could not be person-mean centered. Thus, all behaviorally coded predictor variables and changes in avoidance scores were grand-mean centered (Aiken & West, 1991), allowing for *between-person* comparisons of each individual relative to the mean across all individuals.<sup>4</sup>

## Results

### Preliminary Analyses

Mean values and standard deviations for the predictor and outcome variables are presented in Table 1, with values shown separately for men and women at each measurement wave. Correlations between all of the variables at Time 2 are presented in Table 2.<sup>5</sup> There were significant correlations between male and female partners on almost all variables, indicating non-independence of dyad members' data. This covariation was controlled in the multilevel models.

We also evaluated whether there were any significant differences at Time 1 (prenatally) between participants who completed the entire study and those who dropped out. Participants were considered dropouts if they failed to complete the final wave of the study, regardless of when they dropped out. Independent samples *t*-tests (see Table 3) revealed no differences between completers and dropouts on most of the variables. Participants who dropped out, however, did report lower relationship satisfaction, lower household income, were younger, had less education, and had shorter relationships before childbirth than those who completed the study.

We also tested for gender differences in mean levels of attachment avoidance at each measurement wave. Independent sample *t*-tests indicated no mean differences between men and women in attachment avoidance at any wave (all *t*s < 1.70, all *p*s > .15 across all five waves).

Finally, we conducted post hoc power analysis simulations using *simr* in R (Green & MacLeod, 2016) to estimate the power of each of our models and effects given our sample size and the number of longitudinal observations (Lane & Hennes, 2018). Specifically, we inputted the model fit, fixed effect, and number of simulations tested and ran 1,000 simulations to estimate the power of each effect. These simulations indicated we had high power (>0.72) for all of our significant effects (e.g., the primary predictors in each model).

**Table 1.** Mean Values and Standard Deviations for Variables Across Time for Men and Women.

Variable	Assessment wave				
	Prenatal	6 months	12 months	18 months	24 months
<b>Men</b>					
Attachment avoidance	2.50 (0.92)	2.31 (0.81)	2.34 (0.89)	2.29 (0.86)	2.37 (0.94)
Attachment anxiety	2.74 (0.91)	2.59 (0.95)	2.50 (0.86)	2.54 (0.91)	2.50 (0.91)
Support-giving	9.02 (0.77)	8.81 (0.87)	8.74 (1.05)	8.72 (1.01)	8.65 (1.18)
Proximal care giving	6.06 (0.87)	6.03 (0.91)	5.99 (0.94)	6.01 (0.94)	5.89 (1.09)
Support-seeking	4.60 (0.86)	4.71 (0.81)	4.61 (0.84)	4.75 (0.88)	4.67 (0.93)
Social support receiving	6.81 (0.98)	6.65 (1.12)	6.52 (1.2)	6.56 (1.20)	6.44 (1.27)
Proximal care receiving	6.23 (0.78)	5.91 (1.01)	5.88 (1.01)	5.89 (1.06)	5.78 (1.05)
Relationship satisfaction	42.62 (4.75)	42.34 (4.98)	41.64 (6.72)	41.40 (6.40)	40.84 (6.98)
Negative social exchange	2.55 (1.36)	2.65 (1.48)	2.79 (1.65)	2.67 (1.55)	2.65 (1.53)
<b>Women</b>					
Attachment avoidance	2.35 (0.93)	2.23 (0.96)	2.23 (0.99)	2.34 (1.06)	2.36 (1.14)
Attachment anxiety	3.34 (1.06)	3.22 (1.17)	3.03 (1.04)	3.06 (1.13)	3.03 (1.19)
Support-giving	9.00 (0.88)	9.06 (0.79)	8.97 (0.89)	8.98 (0.87)	8.90 (0.93)
Proximal care giving	6.53 (0.65)	6.40 (0.79)	6.27 (0.83)	6.29 (0.85)	6.20 (0.97)
Support-seeking	5.11 (0.75)	5.05 (0.81)	4.96 (0.92)	4.92 (0.92)	5.00 (0.81)
Social support receiving	6.98 (0.94)	6.86 (0.98)	6.67 (1.13)	6.62 (1.20)	6.66 (1.19)
Proximal care receiving	6.17 (1.05)	6.08 (1.08)	5.98 (1.07)	5.97 (1.10)	5.92 (1.11)
Relationship satisfaction	43.20 (4.30)	42.40 (4.63)	42.52 (4.70)	42.42 (5.61)	41.60 (6.78)
Negative social exchange	1.95 (0.91)	2.22 (1.18)	2.31 (1.29)	2.36 (1.3)	2.29 (1.19)

**Table 2.** Correlations for Variables at Time 2 (6 Months Postnatal) for Men and Women.

Variable	1	2	3	4	5	6	7	8	9	10	11
1. Attachment avoidance	(.08)	.16*	-.25**	-.43**	-.46**	-.26**	-.18*	-.07	-.02	-.29**	.23**
2. Attachment anxiety	.28**	(-.01)	-.19*	-.04	-.14	-.16*	-.24**	-.06	-.12	-.06	.25**
3. Support-giving	-.52**	-.14	(.19*)	.51**	.49**	.60**	.51**	.16*	.17*	.57**	-.48**
4. Proximal care giving	-.57**	-.07	.69**	(-.09)	.49**	.33**	.28**	.16*	.14	.32**	-.31**
5. Support-seeking	-.64**	-.28**	.54**	.55**	(.11)	.49**	.35**	.21**	.17*	.50**	-.53**
6. Support receiving	-.45**	-.13	.60**	.49**	.51**	(.39**)	.56**	.27**	.22**	.55**	-.51**
7. Proximal care receiving	-.31**	-.23**	.50**	.38**	.31**	.58**	(.26**)	.20*	.24**	.48**	-.55**
8. Behavioral support (factor)	-.09	.02	.12	.13	.15	.18*	.10	(.33**)	.78**	.26**	-.26**
9. Behavioral responsiveness (factor)	-.10	-.05	.09	.18*	.19*	.15	.14	.79**	(.24**)	.20*	-.23**
10. Relationship satisfaction	-.43**	-.17*	.58**	.48**	.41**	.62**	.36**	.22**	.19*	(.56**)	-.58**
11. Negative social exchange	.42**	.18*	-.51**	-.53**	-.54**	-.60**	-.52**	-.18*	-.21**	-.62**	(.33**)

Note. Correlations among variables for men appear below the diagonal; those for women appear above the diagonal. The values along the diagonal (in parentheses) are correlations between measures collected from each couple (e.g., the correlation between husbands' and wives' relationship satisfaction). \* $p < .05$ . \*\* $p < .01$ .



**Table 3.** Differences Between Completers and Dropouts on Time 1 (Prenatal) Variables.

Variable	Completers		Dropouts		t	d
	M	SD	M	SD		
Global attachment avoidance	2.39	0.93	2.50	0.91	1.03	0.12
Global attachment anxiety	3.01	1.03	3.12	1.05	1.00	0.11
Support-giving	9.05	0.71	8.92	1.04	-1.36	0.12
Proximal care giving	6.33	0.75	6.22	0.91	-1.29	0.11
Support-seeking	4.9	0.82	4.77	0.89	-1.46	0.13
Social support receiving	6.95	0.87	6.78	1.12	-1.69	0.18
Proximal care receiving	6.24	0.85	6.11	1.05	-1.34	0.13
Relationship satisfaction	42.96	4.24	41.79	6.95	1.62**	0.20
Negative social exchange	2.38	1.18	2.43	1.22	0.45	0.05
Marriage length (years)	3.45	2.55	2.73	2.73	2.32*	0.27
Age	28.09	4.21	26.11	4.27	4.09**	0.47
Level of education	4.96	1.16	4.10	1.53	5.92**	0.63
Household income	3.41	1.67	2.82	1.46	3.18**	0.38

Note. Level of education was rated on a 7-point scale: 1 (no high school diploma or GED), 2 (high school diploma or GED), 3 (some college or technical school, but no degree), 4 (2-year degree), 5 (4-year degree), 6 (master's degree), or 7 (advanced degree). Household income was rated on a 7-point scale: 1 (under US\$25,000), 2 (US\$25,000–US\$39,999), 3 (US\$40,000–US\$54,999), 4 (US\$55,000–US\$69,999), 5 (US\$70,000–US\$84,999), 6 (US\$85,000–US\$99,999), or 7 (over US\$100,000). SD = standard deviation.

\*p < .05. \*\*p < .01. \*\*\*p < .001.

**Table 4.** Perceptions of Receiving Support Predicting Residual Changes in Avoidance.

Fixed effects	b	SE	df	t	p	95% CI	
						Lower	Upper
(Intercept)	0.36	0.08	36.96	4.72	<.001	0.22	0.51
Time	0.01	0.00	2.21	3.04	.082	0.00	0.02
Gender	0.00	0.02	614.80	-0.21	.832	-0.04	0.03
Support receiving	-0.36	0.06	1,095.62	-5.88	<.001	-0.48	-0.24
Concurrent avoidance	0.78	0.02	1,123.21	36.62	<.001	0.74	0.82
Concurrent anxiety	0.01	0.02	1,123.66	0.65	.514	-0.03	0.05
Gender × Support Receiving	-0.01	0.06	1,028.09	-0.11	.913	-0.12	0.11

Note. CI = confidence interval; SE = standard error.

**Hypothesis 1: Support and Proximal Care Receiving**

Consistent with Hypothesis 1, perceptions of receiving more support than usual at one assessment wave predicted declines in level of avoidance at the next assessment wave, controlling for prior wave avoidance (see Table 4).<sup>5</sup> In addition, perceptions of receiving more proximal care than usual at one assessment wave predicted declines in avoidance at the next assessment wave, controlling for prior wave avoidance (see Table 5).<sup>6</sup>

**Hypothesis 2: Support and Proximal Care Giving**

Consistent with Hypothesis 2, perceptions of giving more support than usual at one assessment wave predicted declines in avoidance at the next assessment wave, controlling for

prior wave level of avoidance (see Table 6).<sup>5</sup> In addition, perceptions of giving more proximal care than usual at one assessment wave predicted declines in avoidance at the next assessment wave, controlling for prior wave avoidance (see Table 7).

**Hypothesis 3: Support-Seeking**

In line with Hypothesis 3, perceptions of seeking more support than usual at one assessment wave predicted declines in level of avoidance at the next assessment wave, controlling for prior wave avoidance (see Table 8). This effect, however, was moderated by gender, such that men who perceived seeking more support than usual at one assessment wave experienced significantly greater declines in avoidance at the next assessment than women.

**Table 5.** Perceptions of Receiving Proximal Care Predicting Residual Changes in Avoidance.

Fixed effects	<i>b</i>	<i>SE</i>	<i>df</i>	<i>t</i>	<i>p</i>	95% CI	
						Lower	Upper
(Intercept)	0.43	0.08	32.75	5.58	<.001	0.29	0.58
Time	0.01	0.00	2.16	2.14	.156	0.00	0.01
Gender	-0.01	0.02	611.79	-0.37	.709	-0.04	0.03
Proximal care receiving	-0.07	0.04	1,092.25	-1.98	.049	-0.14	-0.01
Concurrent avoidance	0.77	0.02	1,125.40	35.87	<.001	0.73	0.81
Concurrent anxiety	0.01	0.02	1,127.28	0.36	.717	-0.03	0.05
Gender × Proximal Care Receiving	0.06	0.03	1,051.15	1.60	.109	-0.01	0.12

Note. CI = confidence interval; SE = standard error.

**Table 6.** Perceptions of Giving Support Predicting Residual Changes in Avoidance.

Fixed effects	<i>b</i>	<i>SE</i>	<i>df</i>	<i>t</i>	<i>p</i>	95% CI	
						Lower	Upper
(Intercept)	0.42	0.08	36.87	5.54	<.001	0.28	0.57
Time	0.01	0.00	2.05	2.31	.144	0.00	0.01
Gender	0.00	0.02	608.67	-0.18	.855	-0.04	0.03
Support-giving	-0.19	0.08	1,119.43	-2.44	.015	-0.33	-0.04
Concurrent avoidance	0.77	0.02	1,116.67	35.52	<.001	0.73	0.81
Concurrent anxiety	0.01	0.02	1,119.61	0.54	.587	-0.03	0.05
Gender × Support-Giving	0.13	0.07	1,091.69	1.78	.075	-0.02	0.28

Note. CI = confidence interval; SE = standard error.

**Table 7.** Perceptions of Giving Proximal Care Predicting Residual Changes in Avoidance.

Fixed effects	<i>b</i>	<i>SE</i>	<i>df</i>	<i>t</i>	<i>p</i>	95% CI	
						Lower	Upper
(Intercept)	0.40	0.08	39.06	5.32	<.001	0.26	0.55
Time	0.01	0.00	2.08	2.45	.129	0.00	0.01
Gender	0.00	0.02	610.91	-0.10	.917	-0.04	0.04
Proximal care giving	-0.19	0.04	1,118.80	-4.54	<.001	-0.27	-0.11
Concurrent avoidance	0.78	0.02	1,116.74	35.99	<.001	0.74	0.82
Concurrent anxiety	0.01	0.02	1,119.73	0.48	.632	-0.03	0.05
Gender × Proximal Care Giving	0.06	0.04	1,096.37	1.50	.135	-0.02	0.14

Note. CI = confidence interval; SE = standard error.

#### **Hypothesis 4: Support and Responsive Observed Behavior**

To test Hypothesis 4, we examined whether individuals' behavior exhibited during the support-providing discussions at Time 2 (coded by raters) predicted subsequent changes in their level of avoidance at the following waves. Five behaviors associated with support-giving were coded and factor-analyzed using principal components analysis with a Varimax rotation. Two factors explained 50% and 48% of the variance, respectively (see Table 9). Factor 1 was labeled *responsiveness* and had high loadings on understanding,

validation, and care. Factor 2 was labeled *support* and had high loadings on general support and emotional support. These scales were used to test Hypothesis 4.

Consistent with Hypothesis 4, individuals who displayed greater behaviorally coded support experienced declines in level of avoidance at the subsequent assessment waves, controlling for their Time 2 avoidance (see Table 10). In addition, those who displayed greater behaviorally coded responsiveness experienced declines in avoidance at the next assessment wave, controlling for their Time 2 avoidance (see Table 11).

**Table 8.** Perceptions of Support-Seeking Predicting Residual Changes in Avoidance.

Fixed effects	<i>b</i>	<i>SE</i>	<i>df</i>	<i>t</i>	<i>p</i>	95% CI	
						Lower	Upper
(Intercept)	0.40	0.07	39.71	5.40	<.001	0.26	0.55
Time	0.01	0.00	2.03	2.20	.157	0.00	0.01
Gender	0.00	0.02	610.86	-0.15	.884	-0.04	0.03
Support-seeking	-0.25	0.04	1,117.30	-5.57	<.001	-0.33	-0.16
Concurrent avoidance	0.78	0.02	1,126.60	36.65	<.001	0.74	0.82
Concurrent anxiety	0.01	0.02	1,128.62	0.65	.518	-0.03	0.05
Gender × Support-Seeking	0.09	0.04	1,101.71	2.12	.034	0.01	0.18
Men	-0.34	0.06	543.86	-5.36	<.001	-0.42	-0.20
Women	-0.16	0.06	562.99	-2.53	.012	-0.31	-0.12

Note. CI = confidence interval; SE = standard error.

**Table 9.** Factor Loadings of Principal Components Analysis With Varimax Rotation for Five Support-Giving Behaviors (*N* = 336).

Behavior	Responsiveness	Support
Understanding	<b>0.83</b>	0.40
Validation	<b>0.84</b>	0.45
Care	<b>0.83</b>	0.44
General support	0.41	<b>0.90</b>
Emotional support	0.38	<b>0.91</b>

Note. Bold values represent the items that loaded onto the factor represented by the column heading above.

### Hypothesis 5: Relational Outcomes of Changes in Avoidance

Consistent with Hypothesis 5, greater changes in avoidance predicted greater relationship satisfaction at the next assessment wave, controlling for prior wave level of relationship satisfaction (see Table 12). In addition, greater changes in avoidance predicted less negative social exchanges at the next assessment wave, controlling for prior wave negative social exchange (see Table 13).

## Discussion

In this longitudinal study, we found consistent evidence for each of our theoretically derived, a priori hypotheses regarding changes in avoidance across the transition to parenthood. Overall, the findings support the premise that new, support-related experiences that do not align with key elements of avoidant working models predict changes in attachment avoidance. These experiences tend to reduce individuals' avoidance, independent of their mean avoidance levels. This is consistent with the notion that engaging in behaviors that clearly contradict one's working models should generate change in attachment orientations, even among those who start out at lower levels of insecurity.

## Main Findings

The analyses of perceptions of support provision and receipt (Hypotheses 1 and 2) reveal that when individuals perceive they are receiving or giving more support or more proximal care to their partners, their attachment avoidance declines across time. Moreover, the analyses related to Hypothesis 4 document that observer-rated support and responsiveness during partners' video-recorded conversations also predict declines in their avoidance levels. Specifically, individuals whose behavior was rated as more supportive and responsiveness during these discussions experienced decreases in avoidance as well. These novel findings are important because they directly link changes in avoidance to behaviorally observed variables that converge with our support perception findings. They also partially address some of the concerns typically associated with self-reported social support data.

The findings for perceptions of giving support also make an important contribution to attachment theory. Most prior research on changes in attachment has focused on the effects of specific variables or events such as one's level of marital satisfaction or the occurrence of divorce. In these prior studies, individuals are typically viewed as being "acted upon." Our perceived support-giving results, in contrast, confirm that people can shape their own attachment orientations through their own choices and behavioral actions. Individuals, in other words, are not merely passive objects upon which the environment or their partners act. This finding could have implications for designing therapeutic approaches to change insecure attachment orientations. Clients in individual or couples therapy, for example, could be encouraged to enter situations that make them feel uncomfortable and engage in behaviors that run counter to their avoidant tendencies. If changes in avoidance depend only on environmental conditions, some people may never be able to change, even if motivated to do so. If change in avoidance can be self-generated, however, it may be more likely to occur.

**Table 10.** Support Behavior Predicting Residual Change in Avoidance.

Fixed effects	<i>b</i>	<i>SE</i>	<i>df</i>	<i>t</i>	<i>p</i>	95% CI	
						Lower	Upper
(Intercept)	2.26	0.03	272.03	67.96	<.001	2.19	2.32
Time	0.00	0.00	425.75	1.95	.052	0.00	0.01
Gender	-0.02	0.02	159.11	-0.65	.518	-0.06	0.03
Support behavior	-0.08	0.03	312.56	-3.13	.002	-0.14	-0.03
Wave 2 avoidance	0.83	0.03	303.96	28.04	<.001	0.77	0.88
Wave 2 anxiety	-0.01	0.02	314.84	-0.28	.777	-0.06	0.04
Gender × Support Behavior	-0.03	0.03	255.54	-1.30	.194	-0.08	0.02

Note. CI = confidence interval; SE = standard error.

**Table 11.** Responsive Behavior Predicting Residual Change in Avoidance.

Fixed effects	<i>b</i>	<i>SE</i>	<i>df</i>	<i>t</i>	<i>p</i>	95% CI	
						Lower	Upper
(Intercept)	2.26	0.03	268.49	65.17	<.001	2.19	2.32
Time	0.00	0.00	414.69	1.85	.065	0.00	0.01
Gender	-0.03	0.03	161.23	-1.08	.282	-0.08	0.02
Responsive behavior	-0.06	0.02	302.15	-2.50	.013	-0.11	-0.01
Wave 2 avoidance	0.83	0.03	291.22	28.02	<.001	0.78	0.89
Wave 2 anxiety	-0.01	0.03	300.89	-0.53	.595	-0.06	0.04
Gender × Responsive Behavior	-0.01	0.02	237.25	-0.47	.639	-0.05	0.03

Note. CI = confidence interval; SE = standard error.

**Table 12.** Change in Avoidance Predicting Changes in Relationship Satisfaction.

Fixed effects	<i>b</i>	<i>SE</i>	<i>df</i>	<i>t</i>	<i>p</i>	95% CI	
						Lower	Upper
(Intercept)	11.87	1.17	349.34	10.10	<.001	7.35	15.43
Time	-0.05	0.02	437.80	-2.23	.026	-0.08	-0.01
Gender	-0.09	0.11	486.94	-0.87	.386	-0.30	0.12
Changes in avoidance	0.59	0.29	856.49	2.02	.044	0.02	1.16
Changes in anxiety	-0.31	0.26	829.80	-1.20	.229	-0.82	0.19
Concurrent satisfaction	0.72	0.03	338.93	26.64	<.001	0.64	0.85
Support-giving	-2.17	0.58	846.73	-3.74	<.001	-3.31	-1.04
Support receiving	0.09	0.48	870.77	0.18	.856	-0.86	1.03
Support-seeking	-0.57	0.32	839.85	-1.80	.072	-1.20	0.05
Proximal care giving	-0.26	0.27	836.90	-0.97	.331	-0.79	0.26
Proximal care receiving	-1.05	0.31	853.06	-3.40	.001	-1.65	-0.45
Gender × Changes in Avoidance	-0.02	0.26	831.74	-0.08	.937	-0.53	0.49

Note. CI = confidence interval; SE = standard error.

Although it has been documented once before (Simpson et al., 2003), the potential for self-generated change is an important contribution to the literature. In the former study, self-generated change was investigated only among men and only between the prenatal period and 6 months postpartum. The present study, with its multiple time-points, stronger effects, and tests for change in both men and women

provides stronger and more conclusive evidence for the self-generated change effects. Self-generated change was not discussed by Bowlby, but it is consistent with his model of attachment change and extends it. Moreover, it would be difficult to explain the “self-generation” effect if there was not some amount of inconsistency between behavior and the content of working models that needed to be reconciled.

**Table 13.** Change in Avoidance Predicting Changes in Negative Social Exchange.

Fixed effects	<i>b</i>	<i>SE</i>	<i>df</i>	<i>t</i>	<i>p</i>	95% CI	
						Lower	Upper
(Intercept)	0.64	0.07	836.96	8.78	<.001	0.50	0.78
Time	-0.01	0.00	633.34	-1.13	.261	-0.01	0.00
Gender	0.00	0.03	585.69	0.11	.909	-0.05	0.06
Change in avoidance	-0.17	0.07	1,090.88	-2.43	.015	-0.30	-0.03
Change in anxiety	-0.11	0.06	1,091.39	-1.79	.074	-0.23	0.01
Concurrent negative social exchange	0.78	0.02	1,039.11	34.53	<.001	0.73	0.82
Support-giving	0.31	0.14	1,059.44	2.23	.026	0.04	0.58
Support receiving	0.27	0.11	1,096.02	2.37	.018	0.05	0.49
Support-seeking	0.29	0.08	1,108.43	3.82	<.001	0.14	0.44
Proximal care giving	0.15	0.06	1,092.78	2.42	.016	0.03	0.28
Proximal care receiving	-0.02	0.07	1,091.58	-0.34	.736	-0.17	0.12
Gender × Change in Avoidance	-0.04	0.06	1,082.49	-0.73	.468	-0.17	0.08

Note. CI = confidence interval; SE = standard error.

The results for perceptions of support-seeking (Hypothesis 3) reveal that seeking more support than usual forecasts decreases in avoidance among both men and women, but it has substantially greater impact on men. At this point, we do not know why effects emerged more strongly for men. It is important to note, however, that the transition to parenthood is different for the two genders in that men are more strongly affected by both positive and negative events than women (e.g., Nelson-Coffey et al., 2019; Simpson & Rholes, 2017). Furthermore, women tend to be more affected by their child and parenting role more than men (Katz-Wise et al., 2010), perhaps due to their typical role as primary caregiver during the early lives of their children (Yavorsky et al., 2015).

Individuals' perceptions of receiving and giving support and proximal care during the prior month correlated only moderately with their behaviorally rated level of support and responsiveness during the lab discussions at 6 months postpartum. We do not view this as problematic given that our hypotheses focused on how support perceptions relevant to the self and the partner may create inconsistencies within individuals' working models. In addition, past studies have found modest correlations between self-reported support and behavioral measures of it (e.g., Vaux, 1988).

Finally, we found that men and women who reported declines in avoidance experienced increases in marital satisfaction and decreases in negative social interaction over time (Hypothesis 5). This finding is important because it reveals how changes in avoidance are linked to meaningful changes in the communication and quality of relationships across a chronically stressful life transition.

To our knowledge, researchers have not investigated whether and how individuals attempt to change their own avoidance. Inagaki and Orehek's (2017) recent review of the literature, however, suggests some possible factors beyond the resolution of incongruence that might mediate the

connection between support/caregiving and changes in avoidance. They review studies showing that giving support is typically rewarding and reduces stress. Support-giving is also associated with lower stress-related activation of the amygdala, the dorsal anterior cingulate cortex, and the anterior insula following exposure to social stressors (Inagaki & Eisenberger, 2016). Inagaki and Eisenberger (2016) have also documented that writing supportive notes to friends in need reduces stress-related responding in the amygdala to an induced social stressor. Whillans et al. (2016) have shown that assigning people to an experimental condition in which they give money to other people lowers their blood pressure, and spending money on others also increases positive affect (Aknin et al., 2013). Finally, offering support to a romantic partner affects brain activity relevant to reward (Inagaki & Eisenberger, 2012), and giving support predicts both higher self-esteem and feeling a stronger connection to support recipients (Inagaki & Orehek, 2017).

### Boundary Conditions

The current findings are likely to have several boundary conditions. One is the activation level of the attachment system. Does the attachment system need to be activated chronically in order for long-term changes in attachment orientations to occur? If the attachment system must remain activated for long periods, does the tendency of avoidant people to keep their systems deactivated or suppressed restrict their opportunities for change? We suspect that the more strongly activated a working model is, the more likely new information can be assimilated into it, sometimes generating sufficient incongruence to produce model change. The possible requirement that models must be activated to change might explain why change occurs rather infrequently. However, the persistently high level of stress across the transition to

parenthood may keep the attachment systems of even highly avoidant people chronically activated, providing the opportunity for greater change compared with normal conditions.

Inconsistencies between avoidant working models and perceptions of new, model-inconsistent information may be processed less completely when the attachment system is not strongly or chronically activated, and consolidation of change may take considerable time and extended information processing to occur fully. If so, short-term activation of the attachment system may not provide sufficient time for changes to consolidate and remain stable. The early stages of marriage, periods of joblessness or financial strain, or when an individual is caring for a seriously ill attachment figure are additional examples of times when changes in avoidance may be more likely to occur.

## Limitations and Conclusion

Needless to say, this study has some limitations. One is the lack of direct measurement of incongruence in working models. Because working models are complicated schemas with many components and operate both consciously and outside of awareness, working models cannot be measured directly, especially in naturalistic studies. Instead, attachment orientations serve as an indicator of working models, including whether and the degree to which they change over time. A second limitation involves the length of our study. Extending this study beyond the first 2 years of the transition to parenthood could provide additional insights into the impact that latter-born children have on parents' relationships, their attachment orientations, and whether the perceptions (or behavior) of more versus less experienced parents have different effects on the outcomes we examined. A third limitation is the composition of our sample. Future research should examine a wider range of participants in terms of social class and racial/ethnic makeup. It will also be important to study same-sex parents, single parents, and parents who adopt infants.

Despite these limitations, this study provides novel, theoretically meaningful evidence that romantic partners engage in support-relevant behaviors that impact their level of avoidance across the transition to parenthood. Bowlby (1988), along with other attachment theorists (e.g., Arriaga et al., 2018; Fraley & Brumbaugh, 2004; Simpson et al., 2003), have highlighted that attachment orientations can and sometimes do change over time in systematic, predictable ways. This study identifies some of the key, theoretically relevant constructs and behaviors that appear to facilitate this process.

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## ORCID iDs

W. Steven Rholes  <https://orcid.org/0000-0002-9273-2115>

Jeffrey A. Simpson  <https://orcid.org/0000-0003-1899-2493>

## Supplemental Material

Supplemental material is available online with this article.

## Notes

1. The responsive behavior codes (see Supplemental Material) were adapted from codes developed by Pasch and Bradbury (1998).
2. These hypotheses focus on changes in global avoidance rather than relationship-specific avoidance. In additional analyses, the results for relationship-specific avoidance and global avoidance yielded a similar pattern of significant effects, except in two instances where the *p* values for relationship-specific avoidance were marginal (.06 and .09).
3. An example of the R code used for these analyses can be found in the Supplemental Material.
4. For a complimentary approach to moderated growth curve models that conceptually replicate these effects, see the Supplemental Material.
5. Correlations are reported at Time 2 because that is the assessment wave when the behavioral codes were conducted. The Supplemental Material include correlations for the other assessment waves.
6. Including relationship satisfaction as a covariate in these models does not change the pattern or significance of the reported effects.

## References

- Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. SAGE.
- Ainsworth, M. D. S., Blehar, M. C., Waters, E., & Wall, S. (1978). *Patterns of attachment: A psychological study of the strange situation*. Lawrence Erlbaum.
- Aknin, L. B., Barrington-Leigh, C. P., Dunn, E. W., Helliwell, J. F., Burns, J., Binwas-Diener, R., Kemeza, I., Nyende, P., Ashton-James, C. E., Norton, M. I., & Paul, A. J. (2013). Prosocial spending and well-being: Cross-cultural evidence for a psychological universal. *Journal of Personality and Social Psychology, 104*, 635–652. <https://doi.org/10.1037/a0031578>
- Arriaga, X. B., Kumashiro, M., Finkel, E. J., VanderDrift, L. E., & Luchies, L. B. (2014). Filling the void: Bolstering attachment security in committed relationships. *Social Psychological and Personality Science, 5*, 398–405. <https://doi.org/10.1177/1948550613509287>
- Arriaga, X. B., Kumashiro, M., Simpson, J. A., & Overall, N. C. (2018). Revising working models across time: Relationship situations that enhance attachment security. *Personality and Social Psychology Review, 22*, 71–96. <https://doi.org/10.1177/1088868317705257>
- Bates, D., Maechler, M., Bolker, B., & Walker, S. (2015). Fitting linear mixed-effects models using lme4. *Journal of Statistical Software, 67*, 1–48. <https://doi.org/10.18637/jss.v067.i0>
- Belsky, J., & Rovine, M. (1990). Patterns of marital change across the transition to parenthood: Pregnancy to three years postpartum. *Journal of Marriage and Family, 52*, 5–19.

- Bowlby, J. (1973). *Attachment and loss: Vol. 2. Separation, anxiety, and anger*. Basic Books.
- Bowlby, J. (1979). *The making and breaking of affectional bonds*. Routledge.
- Bowlby, J. (1980). *Attachment and loss, Vol. 3: Sadness and depression*. Basic Books.
- Bowlby, J. (1988). *A secure base*. Basic Books.
- Brennan, K. A., Clark, C. L., & Shaver, P. R. (1998). Self-report measurement of adult attachment: An integrative overview. In J. A. Simpson & W. S. Rholes (Eds.), *Attachment theory and close relationships* (pp. 46–76). The Guilford Press.
- Bretherton, I., & Munholland, K. A. (2008). Internal working models in attachment relationships: Elaborating a central construct in attachment theory. In P. R. Shaver & J. Cassidy (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (pp. 102–130). The Guilford Press.
- Campbell, L., Simpson, J. A., Boldry, J., & Kashy, D. A. (2005). Perceptions of conflict and support in romantic relationships: The role of attachment anxiety. *Journal of Personality and Social Psychology*, *88*, 510–531. <https://doi.org/10.1037.00223514883510>
- Carvalho, M., & Gabriel, S. (2006). No man is an island: The need to belong and dismissing avoidant attachment style. *Personality and Social Psychology Bulletin*, *32*, 697–709.
- Collins, N. L., & Feeney, B. C. (2004). Working models of attachment shape perceptions of social support: Evidence from experimental and observational studies. *Journal of Personality and Social Psychology*, *87*, 363–383. <https://doi.org/10.1037/0022-3514.87.3.363>
- Collins, N. L., Ford, M. B., Guichard, A. C., & Allard, L. M. (2006). Working models of attachment and attribution processes in intimate relationships. *Personality and Social Psychology Bulletin*, *32*, 201–219. <https://doi.org/10.1177/0146167205280907>
- Cowan, C. P., & Cowan, P. A. (2000). *When partners become parents: The big life change for couples*. Lawrence Erlbaum.
- Cutrona, C. E. (1989). Ratings of social support by adolescents and adult informants: Degree of correspondence and prediction of depressive symptoms. *Journal of Personality and Social Psychology*, *57*, 723–730. <https://doi.org/10.1037/0022-3514.57.4.723>
- Davila, J., Burge, D., & Hammen, C. (1997). Why does attachment style change? *Journal of Personality and Social Psychology*, *73*, 826–838. <https://doi.org/10.1037/0022.3514.73.4.826>
- Davila, J., & Cobb, R. (2003). Predicting change in self-reported and interviewer-assessed adult attachment: Tests of the individual difference and life stress models of attachment change. *Personality and Social Psychology Bulletin*, *29*, 859–870. <https://doi.org/10.1177/1016467203029007005>
- Davila, J., Karney, B. R., & Bradbury, T. N. (1999). Attachment change processes in the early years of marriage. *Journal of Personality and Social Psychology*, *76*, 783–802. <https://doi.org/10.1037/0022-3514.76.5.783>
- Feeney, B. C., & Collins, N. A. (2003). Motivations for caregiving for adult intimate relationships. *Personality and Social Psychology Bulletin*, *29*, 950–968. <https://doi.org/10.1177/0146167202352807>
- Feeney, J. A. (2008). Adult romantic attachment: Developments in the study of couple relationships. In P. R. Shaver & J. Cassidy (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (pp. 456–481). The Guilford Press.
- Finch, J. F., Okun, M. A., Pool, G. J., & Ruehlman, L. S. (1999). A comparison of the influence of conflictual and supportive social interactions on psychological distress. *Journal of Personality*, *67*, 581–622.
- Fraley, R. C., & Brumbaugh, C. C. (2004). A dynamical systems approach to conceptualizing and studying stability and change in attachment security. In W. S. Rholes & J. A. Simpson (Eds.), *Adult attachment: Theory, research, and clinical implications* (pp. 86–132). The Guilford Press.
- Fraley, R. C., Vicary, A. M., Brumbaugh, C. C., & Roisman, G. I. (2011). Patterns of stability in adult attachment: An empirical test of two models of continuity and change. *Journal of Personality and Social Psychology*, *101*, 974–992. <https://doi.org/10.1037/a0024150>
- Gere, J., MacDonald, G., Joel, S., Spielmann, S. S., & Impett, E. A. (2013). The independent contributions of reward and threat perceptions to romantic commitment. *Journal of Personality and Social Psychology*, *105*, 961–977. <https://doi.org/10.1037/a0033874>
- Green, P., & MacLeod, C. J. (2016). simr: An R package for power analysis of generalized linear mixed models by simulation. *Methods in Ecology and Evolution*, *7*, 493–498. <https://doi.org/10.1111/2041-210X.12504>
- Inagaki, T. K., & Eisenberger, N. I. (2012). Neural correlates of giving support to a loved one. *Psychosomatic Medicine*, *74*, 3–7. <https://doi.org/10.1097/psy.0b013e3182359335>
- Inagaki, T. K., & Eisenberger, N. I. (2016). Giving support to others reduces sympathetic nervous system-related responses to stress. *Psychophysiology*, *53*, 427–435. <https://doi.org/10.1111/psyp.12578>
- Inagaki, T. K., & Orehek, E. (2017). On the benefits of giving social support: When, why, and how support providers gain by caring for others. *Current Directions in Psychological Science*, *26*, 109–113. <https://doi.org/10.1177/0963721416686212>
- Katz-Wise, S., Priess, H. A., & Hyde, J. S. (2010). Gender-role attitudes and behavior across the transition to parenthood. *Developmental Psychology*, *46*, 18–28.
- Kenny, D. A., Kashy, D. A., & Cook, W. L. (2006). *Dyadic data analysis*. The Guilford Press.
- Kunce, L. J., & Shaver, P. R. (1994). An attachment-theoretical approach to caregiving in romantic relationships. In K. Bartholomew & D. Perlman (Eds.), *Attachment processes in adulthood* (pp. 205–237). Jessica Kingsley.
- Lane, S. P., & Hennes, E. P. (2018). Power struggles: Estimating sample size for multilevel relationships research. *Journal of Social and Personal Relationships*, *35*, 7–31. <https://doi.org/10.1177/0265407517710342>
- Lord, C., Ross, L., & Lepper, M. (1979). Biased assimilation and attitude polarization: The effect of prior theories on subsequently considered evidence. *Journal of Personality and Social Psychology*, *37*, 2098–2109. <https://doi.org/10.1037/0022-3514.37.11.2098>
- Lynch, M. (2013). Attachment, autonomy, and emotional resilience: A multilevel model. *Journal of Counseling and Development*, *91*, 301–312. <https://doi.org/10.1002/j.1556-676.2013.00098.x>
- Mikulincer, M., & Shaver, P. R. (2003). The attachment behavioral system in adulthood: Activation, psychodynamics, and interpersonal processes. *Advances in Experimental Social Psychology*, *35*, 53–152.

- Mikulincer, M., & Shaver, P. R. (2016). *Attachment in adulthood: Structure, dynamics, and change* (2nd ed.). The Guildford Press.
- Moos, R. H., Cronkite, R. C., Billings, A. G., & Finney, J. W. (1983). *Health and daily living form manual*. Stanford University.
- Nelson-Coffey, S. K., Killingsworth, M., Layous, K., Cole, S. W., & Lyubomirsky, S. (2019). Parenthood is associated with greater well-being for fathers than mothers. *Personality and Social Psychology Bulletin, 45*, 1378–1390.
- Pasch, L. A., & Bradbury, T. N. (1998). Social support, conflict, and the development of marital dysfunction. *Journal of Consulting and Clinical Psychology, 66*, 219–230.
- Reis, H. T., Clark, M. S., & Holmes, J. G. (2004). Perceived partner responsiveness as an organizing construct in the study of intimacy and closeness. In D. J. Mashek & A. Aron (Eds.), *Handbook of closeness and intimacy* (pp. 201–225). Lawrence Erlbaum.
- Reizer, A., Ein-Dor, T., & Possick, C. (2012). Living at risk: Dyadic examination of the links among environmental stress, attachment orientations, and marital support provision. *Journal of Social and Personal Relationships, 29*, 694–712. <https://doi.org/10.1177/0265407512443449>
- Reizer, A., Ein-Dor, T., & Shaver, P. R. (2014). The avoidance cocoon: Examining the interplay between attachment and caregiving in predicting relationship satisfaction. *European Journal of Social Psychology, 44*, 774–786. <https://doi.org/10.1002/ejsp.2057>
- Sarason, I. G., Levine, H. M., Basham, R. B., & Sarason, R. R. (1983). Assessing social support: The social support questionnaire. *Journal of Personality and Social Psychology, 44*, 127–139. <https://doi.org/10.1037/0022-351444.1.127>
- Simpson, J. A. (1990). Influence of attachment styles on romantic relationships. *Journal of Personality and Social Psychology, 59*, 971–980. <https://doi.org/10.1037.0022-3514.59.5.971>
- Simpson, J. A., & Rholes, W. S. (2012). Adult attachment orientations, stress, and romantic relationships. In P. G. Devine, A. Plant, J. Olson, & M. Zanna (Eds.), *Advances in experimental social psychology* (Vol. 45, pp. 279–328). Elsevier. <https://doi.org/10.1016/B978-0-12-394286-9.00006-8>.
- Simpson, J. A., & Rholes, W. S. (2019). Adult attachment orientations and well-being during the transition to parenthood. *Current Opinion in Psychology, 25*, 47–52.
- Simpson, J. A., & Rholes, W. S. (1994). Stress and secure base relationships in adulthood. In D. Perlman & K. Bartholomew (Eds.), *Attachment in close relationships* (pp. 181–204). Jessica Kingsley.
- Simpson, J. A., & Rholes, W. S. (2017). Adult attachment, stress, and romantic relationships. *Current Opinion in Psychology, 13*, 19–24.
- Simpson, J. A., Rholes, W. S., Campbell, L., & Wilson, C. L. (2003). Changes in attachment orientations across the transition to parenthood. *Journal of Experimental Social Psychology, 39*, 317–331. [https://doi.org/10.1016/s002-1031\(03\)00030-1](https://doi.org/10.1016/s002-1031(03)00030-1)
- Simpson, J. A., Rholes, W. S., & Nelligan, J. (1992). Support-seeking and support-giving within couples in an anxiety-provoking situation: The role of attachment styles. *Journal of Personality and Social Psychology, 62*, 434–446. <https://doi.org/10.1037/0022-3514.62.3.434>
- Simpson, J. A., Rholes, W. S., & Phillips, D. (1996). The impact of conflict on close relationships: An attachment perspective. *Journal of Personality and Social Psychology, 71*, 899–914. <https://doi.org/10.1037/0022-3514.71.5.899>
- Spanier, G. B. (1976). Measuring dyadic adjustment: New scales for assessing the quality of marriage and similar dyads. *Journal of Marriage and the Family, 38*, 15–28. <https://doi.org/10.2307/350547>
- Spielmann, S. S., Maxwell, J. A., MacDonald, G., & Baratta, P. L. (2013). Don't get your hopes up: Avoidantly attached individuals perceive lower social reward when there is potential for intimacy. *Personality and Social Psychology Bulletin, 39*, 219–236.
- Stanton, S. C. E., & Campbell, L. (2014). Psychological and physiological predictors of health in romantic relationships: An attachment perspective. *Journal of Personality, 82*, 528–538. <https://doi.org/10.1111/jopy.12056>
- Stanton, S. C. E., Campbell, L., & Pink, J. C. (2017). Benefits of positive relationship experiences for avoidantly attached individuals. *Journal of Personality and Social Psychology, 113*, 568–588. <https://doi.org/10.1037/pspi0000098>
- Stern, J. A., Fraley, R. C., Jones, J. D., Gross, J. T., Shaver, P. R., & Cassidy, J. (2018). Developmental processes across the first two years of parenthood: Stability and change in adult attachment style. *Developmental Psychology, 54*, 975–988.
- Twenge, J. M., Campbell, K. W., & Foster, C. A. (2003). Parenthood and marital satisfaction: A meta-analytic review. *Journal of Marriage and Family, 65*, 574–583.
- Vaux, A. (1988). *Social support: Theory, research and interventions*. Praeger.
- Whillans, A. V., Dunn, E. W., Sandstorm, G. M., Dickerson, S. S., & Madden, K. M. (2016). Is spending money on others good for your heart? *Health Psychology, 35*, 146–154. <https://doi.org/10.1037/hea0000332.supp>
- Yavorsky, J. E., Dush, C. M. K., & Schoppe-Sullivan, S. (2015). The production of inequality: The gender division of labor across the transition to parenthood. *Journal of Marriage and Family, 77*, 662–679.