

Adult Attachment and the Transition to Parenthood

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This study examined how a major life stressor—the transition to parenthood—affects marital satisfaction and functioning among persons with different attachment orientations. As hypothesized, the interaction between women's degree of attachment ambivalence and their perceptions of spousal support (assessed 6 weeks prior to childbirth) predicted systematic changes in men's and women's marital satisfaction and related factors over time (6 months postpartum). Specifically, if highly ambivalent (preoccupied) women entered parenthood perceiving lower levels of support from their husbands, they experienced declines in marital satisfaction. Women's ambivalence also predicted their own as well as their husbands' marital satisfaction and functioning concurrently. The degree of attachment avoidance did not significantly predict marital changes, although women's avoidance did correlate with some of the concurrent marital measures. These findings are discussed in terms of attachment theory.

Attachment theory (Bowlby, 1969, 1973, 1980) proposes that interactions with caregivers in infancy, childhood, and adolescence give rise to internal working models of the self and significant others that guide behavior and perception in relationships. Most attachment research to date has investigated either infant-caregiver relationships (Ainsworth, Blehar, Waters, & Wall, 1978) or adult romantic attachment styles (Hazan & Shaver, 1994). The pioneering work of Ainsworth et al. (1978) showed that children who are securely attached view their parents as sources of emotional support to whom they can turn for comfort in times of distress. Children who are avoidantly attached, in contrast, do not perceive caregivers as sources of support, and therefore they distance themselves both physically and psychologically from caregivers when distressed. Children who are ambivalent display approach-avoidance tendencies toward their caregivers when they are distressed, mixing bids for comfort and support with withdrawal and expressions of anger.

The initial research on adult attachment (Hazan & Shaver, 1987) assessed attachment styles using a categorical measure based on the typology Ainsworth et al. (1978) developed for infants. Recent studies, however, have shown that two orthogonal dimensions

underlie this measure, and these dimensions have become the focus of contemporary research on adult attachment (Brennan, Clark, & Shaver, 1998; Griffin & Bartholomew, 1994). The first dimension, typically labeled *avoidance*, assesses the desire to limit intimacy and maintain psychological and emotional independence from significant others. The second dimension, commonly labeled *anxiety* or *ambivalence*, assesses the concern that relationship partners might not be available or supportive when needed. Persons who score low on both dimensions are prototypically *secure*. That is, they feel comfortable with dependence and intimacy, and they do not worry about being abandoned or unsupported.

Security, avoidance, and ambivalence originate, at least in part, from having received adequate or inadequate emotional support in earlier attachment relationships (see van IJzendoorn, 1995). Bowlby (1973) claimed that growing up with "ordinarily affectionate" (p. 208) parents should produce such deeply rooted expectations for emotional support that, in adulthood, it becomes difficult to imagine a world in which support is not available. Conversely, persons who grow up with unsupportive parents should have "no confidence that a care-taking figure can ever be truly available and dependable" (Bowlby, 1973, pp. 208). Kobak and Sceery (1988) have proposed that receiving sufficient emotional support produces unconscious "rules" that allow secure individuals to be aware of their feelings of distress and actively seek comfort from others. Deficient support, by comparison, produces rules that encourage avoidant persons to remain largely unaware of their distress and to retract from others, whereas unpredictable support leads ambivalent persons to pay excessive attention to their distress and to worry continually about the availability and supportiveness of their attachment figures.

Attachment theory, therefore, suggests that adult attachment orientations and phenomena related to social support should be

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closely related. Consistent with this view, recent studies have shown that adult attachment orientations are systematically associated with three important aspects of social support. First, attachment orientations differentially predict the tendency to seek social support as a means of coping with stress. More avoidant persons, for instance, are less likely to seek support than other people, whereas more secure persons are more inclined to do so (see Mikulincer & Florian, 1995; Mikulincer, Florian, & Weller, 1993; Ognibene & Collins, 1998; Simpson, Rholes, & Nelligan, 1992). Second, attachment orientations are differentially associated with perceptions of available support. Highly avoidant persons, for example, harbor many more negative beliefs about the availability of support than do secure persons, and, relative to other persons, highly ambivalent individuals tend to be less satisfied with their currently available support and mistrust potential support providers (see Bartholomew, Cobb, & Poole, 1997; Kobak & Sceery, 1988; Wallace & Vaux, 1994). Third, studies in the developmental literature suggest that perceptions of support might mediate links between attachment and some developmental outcomes. Anan and Barnett (1999), for example, found that perceptions of maternal support mediated the association between infant–mother attachment and behavioral problems at age 6. Similarly, research with adolescents suggests that perceptions of parental support mediate the relation between attachment to parents and psychological adjustment (Larose, Bernier, Soucy, & Duchesne, 1999; Larose & Boivin, 1997).

The present research tests how adult attachment orientations are related to perceptions of spousal support and indicators of marital functioning across a major life stressor—the transition to parenthood. Becoming a parent for the first time requires many significant adaptations and is acutely stressful for most couples. It is not surprising that the transition period tends to be associated with downturns in marital satisfaction for many couples and with increased conflict and reductions in companionate activities (see, e.g., Belsky, Lang, & Rovine, 1985; Belsky & Pensky, 1988; Belsky, Spanier, & Rovine, 1983; Cowan & Cowan, 2000; Cowan, Cowan, Core, & Core, 1978; Cowan et al., 1985; Heinicke, 1995; Levy-Shiff, 1994). Increases in marital problems are not universal, however. Tucker and Aron (1993) found that variation in marital quality also increases during the transition, with many couples showing declines in marital well-being but some maintaining or even improving.¹

In the present study, we collected information from both husbands and wives approximately 6 weeks prior to the birth of their first child (at Time 1) and approximately 6 months after delivery (at Time 2). At Time 1, women provided information about their attachment orientation, their perceptions of the amount support available from their husband, their perceptions of the amount of anger their husband directed at them, their tendency to seek support from their husband, and their marital satisfaction. Husbands at Time 1 provided information about their attachment orientation, their perceptions of how supportively they behaved toward their wife, their perceptions of the amount of anger they directed at their wife, and their marital satisfaction. At Time 2, both spouses provided the same information and responded to other theoretically relevant measures.²

Hypotheses

Guided by attachment theory and research, we derived several hypotheses about how people with different attachment orientations should weather the transition to parenthood. Mikulincer and Florian (1998) have suggested that greater attachment security should act as an inner resource that buffers secure people from experiencing declines in marital satisfaction and functioning when major stressors are encountered. Greater insecurity, on the other hand, should make people more vulnerable to declines. Our central hypotheses focus on how prenatal (Time 1) attachment orientations and perceptions of spousal support should forecast pre-to-postpartum changes in marital outcomes, such as perceptions of spousal support (received by wives and given by husbands), perceptions of marital satisfaction (reported by both spouses), perceptions of spousal anger (received by wives and displayed by husbands), and support seeking (reported by wives). We also derived several concurrent hypotheses about how variables assessed prenatally (at Time 1) and after birth (at Time 2) should correlate within each time period.

Women's Ambivalence

Our first hypothesis was that more ambivalent women should perceive less support from their husband than should less ambivalent women. We expected that these effects would emerge in both the Time 1 and the Time 2 concurrent data. More important, we expected more ambivalent women to experience significant declines in perceived spousal support from Time 1 to Time 2. According to attachment theory, working models can affect social perceptions by biasing information processing in model-confirming ways (see Bowlby, 1973, 1980). The working models of highly ambivalent people contain two elements that should undermine perceptions of spousal support. The first is the deep-seated concern that attachment figures might be unavailable or unwilling to provide support when it is most needed; the second is the general feeling of resentment held toward attachment figures, which stems from the inadequate support provided by earlier attachment figures (Bowlby, 1973, 1988).

Working models that contain these two elements should bias social perceptions in ways that lead more ambivalent persons to view their partner as less supportive. Perceptions of lower or diminished support, in turn, should lead highly ambivalent persons to evaluate their marriage and spouse as less satisfactory and more problematic. Accordingly, we also hypothesized that, in general,

¹ Some studies have found equivalent levels of marital decline when couples who do and do not have children are compared over time (e.g., Karney & Bradbury, 1997). At present, the issue of whether having children is a unique cause of marital decline has not been settled.

² This study focuses primarily on wives' perceptions of their husband and husbands' responses to their wife for several reasons. First, Bowlby (1988) argued that the transition period should be one in which women experience attachment issues acutely, perhaps more so than men. Second, women experience greater stress during the transition period because they often assume a larger role in early child care (Oakley, 1980) and must endure the physical demands of gestation and childbirth. Third, marital satisfaction tends to be affected more adversely in women than in men across the transition period (Belsky & Pensky, 1988).

more ambivalent women would be less satisfied with their marriage, would seek less support from their spouse, and would perceive themselves as the target of greater anger from their husband. These effects should emerge within the concurrent data at both Time 1 and Time 2. In addition, highly ambivalent women should experience larger downward changes from Time 1 to Time 2 on these variables relative to less ambivalent women.³

We also hypothesized that the strength of the associations between ambivalence and these marital variables would be moderated by perceptions of available spousal support. In particular, effects for ambivalence should be stronger among highly ambivalent women who perceive lower levels of spousal support. Bowlby (1969) maintained that contextual factors should influence the degree to which the attachment system and underlying working models are activated and, therefore, guide perceptions and behavior. Especially for highly ambivalent persons, the belief that attachment figures are not available and willing to provide support in times of need should be a critical factor in determining whether the person's working models are operative. If highly ambivalent persons believe that their attachment figures are or will be available and supportive in stressful situations, their working models should be less activated and, thus, should have less impact on their perceptions and behavior. (For example, the resentment contained in their models should be less likely to be linked to their spouse.) Conversely, if highly ambivalent persons perceive that their attachment figures are not or will not be available and supportive, their working models should be more activated and more influential. Accordingly, we predicted that highly ambivalent women would be less satisfied, seek less support, and perceive greater anger from their husband both concurrently (within each time period) and prospectively (in terms of changes across the time periods), especially if they perceived spousal support to be low.⁴

As discussed earlier, research with children and adolescents suggests that perceptions of support may mediate the connection between attachment to parents and subsequent psychological adjustment. This suggests that one proximal source of change in marital satisfaction, support seeking, and perceptions of anger could be changes in perceptions of spousal support. Accordingly, we hypothesized that changes in perceptions of spousal support would at least partially mediate links between ambivalence and changes in these variables.

Women's Avoidance

It is more difficult to derive unequivocal predictions about perceptions of spousal support in avoidant persons on the basis of attachment theory. Highly avoidant persons value independence and self-reliance, and they distance themselves from others when distressed (Crittenden & Ainsworth, 1989; Dozier & Kobak, 1992; Simpson et al., 1992). In stressful situations like the transition to parenthood, therefore, highly avoidant people should not seek support, and therefore they may not be fully aware when the support they are receiving is low. Even if avoidant persons do perceive that support is insufficient, it is unclear whether such perceptions necessarily affect marital satisfaction and functioning. Because avoidant persons strive to maintain psychological independence, perceptions that a spouse is not supportive may not significantly undermine satisfaction or affect other aspects of marital interaction. Therefore, we could not predict whether percep-

tions of lower spousal support would adversely affect the marital relationships of highly avoidant persons.

No matter what the relationship between avoidance and perceptions of spousal support proves to be, theory and previous research clearly suggest that highly avoidant wives should engage in less support seeking during the transition to parenthood (see Mikulincer et al., 1993; Simpson et al., 1992). Thus, the only clear prediction we could derive for avoidance was that highly avoidant wives should report less support seeking than less avoidant wives should.

Husbands

Given that this study focuses primarily on women's attachment orientations, we examined husbands' behavior as a function of their wife's attachment orientations rather than their own. Men who are romantically involved with highly ambivalent women tend to be very dissatisfied with their relationship (Feeney, 1994, 1999; Kirkpatrick & Davis, 1994; Simpson, 1990). This chronic dissatisfaction may stem from either men's beliefs that they cannot fulfill their partner's needs and demands for support (Cassidy & Berlin, 1994) or from the realization that their wife does not acknowledge the support that they genuinely do offer or provide. On the basis of this reasoning, we hypothesized that men married to more ambivalent women should (a) report providing more support than their wife perceived was available, (b) report behaving more angrily toward their wife, (c) view their wife as having more negative personal attributes (e.g., being unstable, immature, needy, and emotionally weak), and (d) be more dissatisfied with their marriage.

Men involved with highly avoidant partners also tend to be less satisfied than other men, but these effects are weaker than those for

³ Previous research on attachment and support seeking paints a complex picture of highly ambivalent individuals. On the one hand, they report using more escape-avoidance coping strategies when upset (Ognibene & Collins, 1998) and are unsure of whether they can fully trust potential support providers (Mikulincer & Florian, 1998). On the other hand, they claim to have fairly large support networks (Bartholomew et al., 1997). Although highly ambivalent persons typically report that they desire comfort and support from attachment figures, they might actually seek less spousal support than do less ambivalent individuals during the transition to parenthood. Three lines of evidence argue for this prediction. First, because they have received inadequate support earlier in life, ambivalent adults resent their attachment figures (Bowlby, 1973, 1988). Second, childhood experiences should lead ambivalent persons to expect that their attachment figures will be unresponsive to their needs, especially during stressful life situations (Bowlby, 1973). Third, ambivalent persons are very sensitive to rejections from their romantic partner (Downey & Feldman, 1996), which might compel them to refrain from seeking support when their partner is taxed and a major rejection could occur. Thus, each of these factors could lead highly ambivalent women not to seek high levels of support from their husband during the transition to parenthood.

⁴ If the correlation between wives' ambivalence and their perceptions of support is too high, moderating effects (i.e., significant prenatal ambivalence by perceived support interactions) might not be found because of multicollinearity (Baron & Kenny, 1986). These moderator predictions, therefore, are contingent on the assumption that sufficient independence exists between ambivalence and perceptions of support within both the Time 1 and the Time 2 data.

men with ambivalent partners (Feeney, 1999). To complicate matters, it is unclear how wives' avoidance should relate to perceptions of spousal support, a variable that ought to be a major proximal source of husbands' marital dissatisfaction. Thus, we conducted exploratory analyses to examine the relations between wives' avoidance and husbands' reports of supportiveness, anger, and dissatisfaction, but we did not formulate explicit hypotheses about the associations between women's avoidance and men's marital satisfaction and behavior.

Time 1 Versus Time 2 Effects

Bowlby (1969, 1988) claimed that attachment behaviors most characteristic of security and insecurity should be most apparent in persons who are fearful, ill, anxious, stressed, or otherwise in need of support. Kobak and Duemmler (1994) have extended this principle by proposing that chronic, sustained conflict between partners also should elicit attachment behaviors and emotions, especially in highly ambivalent individuals. The demands of adjusting to a new baby coupled with heightened marital conflict should activate working models, particularly in highly ambivalent individuals (Bowlby, 1988). Under sustained stress, working models should have a stronger impact on marital interactions, producing stronger correspondence between ambivalence and marital outcome measures at Time 2 than at Time 1. Hence, we predicted that the size of the correlations between wives' ambivalence and measures of marital functioning would be larger during the more stressful postpartum period (at Time 2). For reasons discussed above, we were less certain about whether correlations would be stronger at Time 2 for more avoidant individuals.

In summary, we tested six sets of hypotheses:

1. In terms of prospective predictions, wives' greater ambivalence before childbirth should predict pre-to-postpartum declines in marital satisfaction, perceptions of spousal support, and support seeking and should predict increases in perceptions of husbands' anger, particularly when prenatal spousal support is perceived to be low. These moderated (interactive) effects, in turn, should be mediated by pre-to-postpartum changes in wives' perceptions of husbands' support.
2. Prospectively, wives' greater ambivalence should predict declines in husbands' reported supportiveness and marital satisfaction and increases in husbands' reported anger, especially when wives perceive spousal support to be low prenatally. These moderated effects should be mediated by changes in wives' perceptions of spousal support.
3. In terms of concurrent predictions, highly ambivalent wives should perceive less spousal support within both the prenatal (Time 1) and the postnatal (Time 2) periods. Perceptions of lower support should moderate relations between wives' ambivalence and their lower marital satisfaction, lower support seeking, and perceptions of greater spousal anger.
4. In terms of concurrent predictions, the husbands of highly ambivalent wives at Time 1 and Time 2 should also report lower marital satisfaction, less supportiveness, greater expressed anger, and more negative postnatal trait attributions about their wife. Moreover, women's perceptions of spousal support should moderate these relationships.
5. Highly avoidant wives should seek less support from their husband at both Time 1 and Time 2 than should less avoidant

wives. However, for the reasons discussed above, it is unclear whether they will experience greater declines in support seeking over time.

6. Because stressful events should increase the correspondence between attachment orientations and attachment-related behaviors, correlations between wives' ambivalence and both husbands' and wives' reports of marital functioning should be larger in the postnatal (Time 2) period than in the prenatal (Time 1) period.

Method

Participants

One hundred six married couples residing in a Southwestern US city completed both the prebirth (Time 1) and the postbirth (Time 2) testing sessions. Seven additional couples completed the prebirth session but did not complete the postbirth session. Six of these couples had moved away, and one had separated between the two sessions. Couples were recruited from childbirth preparation classes offered by a local hospital and were paid \$50 to participate. The mean age of women and men was 28.0 ($SD = 4.3$) and 29.0 ($SD = 5.5$) years, respectively. The mean length of marriage was 3.8 years ($SD = 2.5$).

Procedures

Couples were initially contacted during an early meeting of a childbirth course. An experimenter explained the study, and couples were enlisted. Approximately 6 weeks prior to their due date (at Time 1), both spouses in each couple completed several self-report scales after class, privately and without consulting one another. Approximately 6 months after childbirth (at Time 2), both partners completed a second set of self-report measures that was mailed to their home. Spouses were instructed to complete the measures privately and not to consult one another. Each spouse's questionnaire packet was mailed directly to the study coordinator (i.e., wives' and husbands' packets were returned in separate envelopes).

Each packet contained scales that assessed participants' adult attachment orientations (toward romantic partners in general), their marital satisfaction, and the general quality of their marriage. Wives also completed scales assessing how supportive they perceived their husband was, how often their husband behaved angrily toward them, and the degree to which they sought support from their husband when they had a problem or were upset. Husbands completed scales that assessed how available they thought they were as a source of support for their wife, how often they thought they behaved angrily toward their wife, and how they perceived their wife's emotional and behavioral competence (at Time 2 only). Unless otherwise noted, participants completed all scales at both time periods.⁵

Measures

Ambivalence and avoidance were measured by the Adult Attachment Questionnaire (AAQ; Simpson, Rholes, & Phillips, 1996). Participants responded to this measure in terms of how they thought and felt about romantic partners in general, including (but not limited to) their spouse. Sample items from the Avoidance subscale are "I don't like people getting too close to me" and "I'm nervous whenever anyone gets too close to me." Sample items from the Ambivalence subscale include "Others often are reluctant to get as close as I would like" and "I am confident that my

⁵ Both partners also completed a few additional measures for a different project. The nonreported measures (e.g., a few scales inquiring about expectations of the child) most likely did not alter participants' answers to the other measures. Because these additional measures are not relevant to our predictions, we do not report them.

partner(s) love me just as much as I love them" (reverse scored). These items were answered on 7-point scales ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). There are eight avoidance and nine ambivalence items on the AAQ; thus, scores could range from 8 to 56 for avoidance and from 8 to 63 for ambivalence. Cronbach's alphas for the Avoidance scale were .79 and .82, respectively, for men and women at Time 1 and .78 and .82 for men and women at Time 2. Alphas for the Ambivalence scale were .74 and .81, respectively, for men and women at Time 1 and .80 and .86 for men and women at Time 2. The high correlations between this measure and other adult attachment measures are discussed in Griffin and Bartholomew (1994).

Marital satisfaction was assessed by the Satisfaction subscale of Spanier's (1976) Dyadic Adjustment Scale (DAS). Example items from this 10-item subscale are "Do you regret that you ever married?" and "How often do you discuss or have you considered divorce, separation, or terminating your relationship?" These items were answered on 6-point scales ranging from 1 (*all the time*) to 6 (*never*). Thus, scores could range from 6 to 60. Cronbach's alphas for this scale were .78 and .84, respectively, for men and women at Time 1 and .87 and .90 for men and women at Time 2.

Husbands' frequency of angry behavior was measured by the Test of Negative Social Exchange (Finch, Okum, Pool, & Ruehlman, 1999). Typical items ask men to indicate how frequently (in the past month) they performed the following behaviors: "lost my temper with my wife," "got angry with my wife," "was rude to my wife," "yelled at my wife," "nagged my wife," and "was insensitive to my wife." The 24 items on this scale were answered on 9-point scales ranging from 1 (*not at all*) to 9 (*frequently*). Scores could range from 24 to 216. Cronbach's alphas for this measure were .95 and .96 at Times 1 and 2, respectively. Women completed a modified version of this scale. The wording of the items was altered so the questions asked about wives' perceptions of the amount of anger their husband directed at them. Cronbach's alphas for this modified scale were .96 and .97 at Times 1 and 2, respectively.

A scale originally developed by Moos, Cronkite, Billings, and Finney (1983) was adapted to assess the extent to which women sought support from their husband. This 18-item measure asked women to indicate the degree to which they responded to stress by turning to their husband for support (as opposed to keeping their worries and concerns to themselves). The slight adaptation consisted of rewording the items so they inquired specifically about the husband. Sample items include the following: "When I have a problem, I talk it out with my partner [husband]," "When I have a problem, I want the comfort of being with my partner," and "When I have a problem, I don't let anyone know" (reverse scored). These items were answered on 7-point scales ranging from 1 (*strongly unlike what I do*) to 7 (*very much like what I do*). Scores could range from 18 to 126. Cronbach's alphas were .74 and .67 at Time 1 and Time 2, respectively.

A version of the Social Provisions Scale (Cutrona, 1984) was used to assess wives' perceptions of the degree to which their husband was supportive. Sample items are "Can you depend on your husband to help you if you really need it?" "Does your relationship with your husband provide you with a sense of emotional security and well-being?" and "If something went wrong, do you feel that your husband would *not* come to your assistance?" (reverse scored). These items were answered on 3-point scales ranging from 1 (*no*) to 3 (*yes*). Scores could range from 12 to 36. Cronbach's alphas were .83 and .88 at Times 1 and 2, respectively. The SPS was adapted to measure husbands' perceptions of their availability to their wife as a source of support. Husbands answered the same questions with the wording changed to reflect their self-perceptions (e.g., "Can your wife depend on you to help her if she really needs it?"). Cronbach's alphas for this measure were .68 and .81 at Times 1 and 2, respectively.

Husbands' trait attributions about their wife were assessed with a four-item scale developed by us for this study. This measure asked husbands to rate the degree to which their wife was emotionally stable versus unstable, mature versus immature, self-reliant versus excessively needy, and (emo-

tionally) strong versus weak. These questions were answered on 7-point scales ranging from 1 (*very unstable, very immature, excessively needy, or very weak*) to 7 (*very stable, very mature, very self-reliant, or very strong*). Scores could range from 4 to 28. This measure was administered only at Time 2 (Cronbach's $\alpha = .80$).

To assess general marital quality, we also had participants complete the Braiker and Kelley (1979) measure, which contains four subscales that assess love, conflict, mixed feelings (or ambivalence) about the marriage, and relationship maintenance behaviors. At Time 1, Cronbach's alphas for these subscales ranged from .62 to .88 and averaged .75 for men and .74 for women. At Time 2, they ranged from .46 to .91 and averaged .81 for men and .71 for women. We included this measure to determine whether our effects might be attributable to variation in marital quality.

To test whether the current results were attributable to variance shared with neuroticism, which correlates with both ambivalence (Shaver & Brennan, 1992) and marital satisfaction (Karney & Bradbury, 1997), we also had participants complete Goldberg's (1990) neuroticism scale. Each adjective (e.g., volatile, nervous, emotional, demanding) was answered on a 5-point scale ranging from 1 (*I strongly agree*) to 5 (*I strongly disagree*). Scores could range from 20 to 100. This measure was administered only at Time 1 (Cronbach's $\alpha = .89$ for men and .87 for women).

Each participant completed the scales in the following order: the AAQ, the DAS, the perceived (for women) or reported (for men) spousal support scale, the perceived (for women) or reported (for men) anger scale, the attributions measure (for men only), the Braiker and Kelley (1979) scales (for both spouses), the support-seeking scale (for women only), and the neuroticism scale (for both spouses).

Results

In this section, we first report descriptive analyses testing for changes between the Time 1 and Time 2 marital measures and present zero-order correlations among these measures. We then report the results of prospective analyses testing predicted relations between the attachment dimensions (assessed at Time 1) and Time 1–Time 2 changes in marital variables. Next, we report concurrent analyses that test for predicted relations between attachment orientations and the marital variables within Time 2 (postnatal) and Time 1 (prenatal). Finally, we present analyses comparing the strength of the correlations between the attachment dimensions and the marital variables (reported by both spouses) at Time 1 versus Time 2.

Preliminary Analyses

Tests for differences between Time 1 and Time 2 means for wives and husbands on the dependent variables corroborated previous findings revealing that the transition to parenthood is difficult for many couples (see Table 1). Both wives and husbands reported significant declines in marital satisfaction. In addition, wives perceived less support and greater anger from their husband and sought less support across the transition period (although this latter effect was only marginally significant). Husbands reported providing less support across the transition period. They did not, however, report displaying greater anger toward their wife.

In Table 2, we report zero-order correlations between the two attachment dimensions within each sex and between partners. Unlike previous studies involving dating couples (e.g., Simpson et al., 1992), the ambivalence and avoidance attachment dimensions were moderately correlated for both husbands and wives, such that higher levels of ambivalence were associated with higher levels of avoidance. Correlations within each dyad (i.e., couple) revealed

Table 1
Prebirth (Time 1) to Postbirth (Time 2) Mean Changes
on the Dependent Variables

Variable	Time 1		Time 2		<i>t</i> (104)
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Wives' perceptions of husbands' support	33.13	2.98	31.95	4.15	4.02**
Wives' support seeking	89.46	12.84	87.52	12.64	1.76†
Wives' perceptions of husbands' anger	54.99	28.66	66.51	37.91	-5.33**
Wives' marital satisfaction	42.03	4.75	39.52	6.69	5.21**
Husbands' marital satisfaction	41.91	4.13	40.17	5.59	4.96**
Husbands' reported anger	61.23	27.91	65.30	31.77	-1.46
Husbands' reported support	32.90	2.41	32.18	2.97	2.73**

† $p < .10$ (marginally significant). ** $p < .01$.

only one significant effect: Husbands' and wives' avoidance scores were positively correlated. Correlations involving each attachment dimension assessed at Time 1 and Time 2 (i.e., 7.5 month test-retest reliability coefficients) were large and significant (see the diagonal of Table 2).

Table 3 presents prenatal (Time 1) correlations among the dependent variables, and Table 4 presents postnatal (Time 2) correlations. As shown in Table 4, among husbands at Time 2, self-reported anger, marital satisfaction, self-perceptions of supportiveness, and personality attributions regarding wives were all significantly correlated. Among wives, perceived spousal anger, support seeking, marital satisfaction, and perceptions of spousal support were also significantly correlated. As shown along the diagonal of Table 4, husbands' perceptions of their support and anger were significantly correlated with their wife's perceptions of how much anger they displayed and how much support they provided. Husbands' and wives' marital satisfaction also were significantly correlated. Additional analyses revealed that none of the Time 1 or Time 2 variables were significantly correlated with length of marriage, and only two were significantly correlated with the log transformation of length (a result that would be expected by chance).

Table 2
Correlations Among the Attachment Dimensions

Attachment dimension	1	2	3	4
1. Husbands' ambivalence	.69***	.19†	.12	.02
2. Husbands' avoidance	.27**	.65***	.05	.22**
3. Wives' ambivalence	.07	-.01	.62***	.35***
4. Wives' avoidance	.11	.27**	.31**	.66***

Note. Correlations between each dimension measured at Time 1 and Time 2 appear on the diagonal (in bold). Correlations between the attachment dimensions measured at Time 1 appear above the diagonal. Those between the attachment dimensions measured at Time 2 appear below the diagonal.

† $p < .10$ (marginally significant). ** $p < .01$. *** $p < .001$.

Table 3
Correlations Among the Dependent Variables at Time 1

Dependent variable	1	2	3	4
1. Anger	.34**	-.40**	-.71***	-.71***
2. Support seeking ^a			.34**	.37**
3. Marital satisfaction	-.33**		.69***	.63***
4. Perceptions of support	-.34**		.54***	.41**

Note. Correlations among variables collected from husbands appear below the diagonal; correlations among variables collected from wives appear above the diagonal. The values on the diagonal (in bold) are the correlations between measures collected from each partner (e.g., the correlation between husbands' reported anger and wives' perceptions of their husband's anger, the correlation between husbands' and wives' marital satisfaction). Empty cells indicate that correlations were not calculated because the relevant data were not collected.

^a Collected from wives only.

** $p < .01$. *** $p < .001$.

Prospective Analyses

Our predictions regarding change in marital measures were tested using hierarchical regression methods. These analyses were complicated by two factors. Husbands' and wives' avoidance scores were significantly correlated, as were both husbands' and wives' own ambivalence and avoidance scores. To adjust for this covariation, we partialled three control variables—men's ambivalence and avoidance and women's avoidance—before we tested the effects of women's ambivalence in the regression analyses. In tests involving avoidance, the control variables were men's avoidance and ambivalence and women's ambivalence.⁶ The results presented below test the six major sets of hypotheses previously described. Following tests of the major hypotheses, we also report several exploratory analyses that address secondary issues. All significant effects involving attachment orientations that emerged are reported.⁷

Ambivalence. The first set of analyses tested the first set of hypotheses (see the numbered hypotheses in the introduction). The first analysis tested whether wives' prebirth (Time 1) ambivalence predicted changes in perceived spousal support from the prebirth (Time 1) to the postbirth (Time 2) periods. The dependent measure in the first analysis was wives' postbirth perceptions of spousal support. The predictor variables, in order of entry, were as follows: wives' prebirth perceptions of support, the three control variables,

⁶ Unless otherwise noted, this control strategy was used in all analyses reported in this article. We could not conduct actor-partner (APIM) analyses (see Kashy & Kenny, 2000) because the APIM requires identical variables for both partners.

⁷ Because secure attachment (i.e., having low scores on both the ambivalence and the avoidance dimensions) should chiefly buffer secure people from experiencing marital declines (Mikulincer & Florian, 1998), we did not expect to find significant interactions involving ambivalence and avoidance. Nevertheless, we tested this interaction, which proved to be significant in only 3 of 19 analyses. The significant interactions were scattered across the dependent measures and did not constitute a coherent pattern of findings. Therefore, these interactions are not considered further. Finally, in the analyses presented below, we do not report multiple correlations because the two attachment dimensions rarely made significant, independent contributions to predicting the dependent measures.

Table 4
Correlations Among the Dependent Variables at Time 2

Dependent variable	1	2	3	4
1. Anger	.66***	-.38***	-.80***	-.76***
2. Support seeking ^a		.32***	.45***	
3. Marital satisfaction			.68***	.70***
4. Perceptions of support				.61***
5. Attributions ^b			-.42***	.39***

Note. Correlations among variables collected from husbands appear below the diagonal; correlations among variables collected from wives appear above the diagonal. The values on the diagonal (in bold) are the correlations between measures collected from each partner (e.g., the correlation between husbands' reported anger and wives' perceptions of their husband's anger, the correlation between husbands' and wives' marital satisfaction). Empty cells indicate that correlations were not calculated because the relevant data were not collected.

^a Collected from wives only. ^b Collected from husbands only.

** $p < .01$. *** $p < .001$.

wives' prebirth ambivalence scores, and the interaction of wives' ambivalence and their perceptions of support. By partialing Time 1 perceptions of support, this analysis tested whether women's prebirth ambivalence predicted perceptions of spousal support at Time 2, independent of the effects of perceptions of Time 1 spousal support. Thus, the analysis tested whether changes in perceptions of support that occurred from Time 1 to Time 2 were significantly predicted by the independent variables assessed at Time 1 (see Cohen & Cohen, 1983).⁸ As expected, the interaction between wives' ambivalence and perceptions of spousal support at Time 1 predicted changes in perceptions of support across the two time periods, $F(1, 98) = 5.21, p < .05, \beta = .19$. This interaction is depicted in Figure 1.⁹

The next analyses, involving support seeking, marital satisfaction, and anger, were conducted in the same manner. The analysis of support seeking revealed that the interaction between wives' ambivalence and perceived support at Time 1 was significant, $F(1, 98) = 13.45, p < .001, \beta = -.34$. This interaction is depicted in

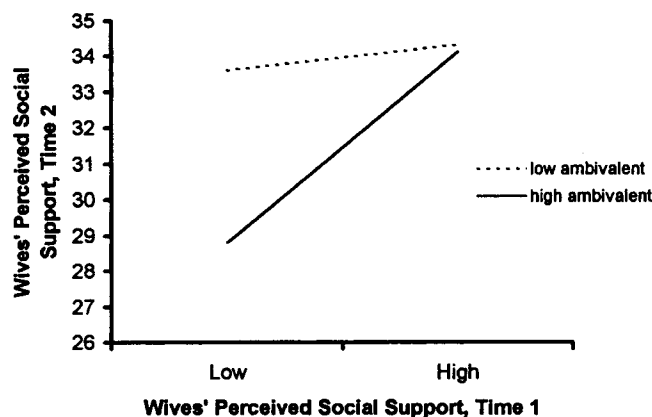


Figure 1. Wives' ambivalence and perceptions of spousal support (at Time 1) predicting changes in perceived spousal support (i.e., wives' Time 2 perceived support, controlling for their Time 1 perceived support). Regression lines are plotted for individuals scoring one standard deviation above and below the mean on the variables.

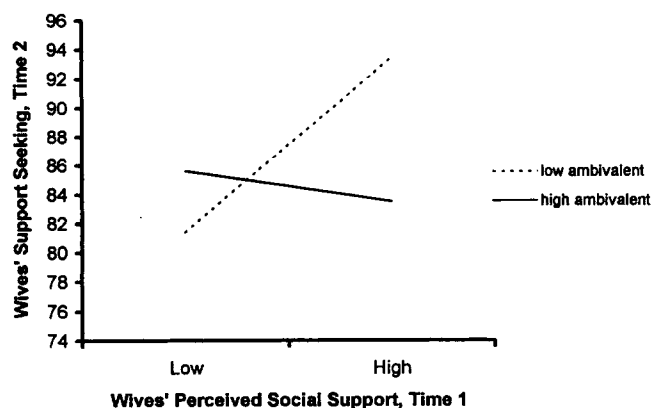


Figure 2. Wives' ambivalence and perceptions of spousal support (at Time 1) predicting changes in spousal support seeking (i.e., wives' Time 2 support seeking, controlling for their Time 1 support seeking). Regression lines are plotted for individuals scoring one standard deviation above and below the mean on the variables.

Figure 2. The next analysis indicated that wives' prenatal ambivalence and perceived spousal support also interacted to predict changes in their marital satisfaction, $F(1, 98) = 3.73, p = .056, \beta = .17$. This interaction is shown in Figure 3. Finally, the analysis of change in women's perceptions of husbands' anger yielded no significant effects for ambivalence.

As noted above, more ambivalent women—especially those who perceived less spousal support at Time 1—experienced significant decrements from Time 1 to Time 2 in perceptions of spousal support. Consequently, these changes in perceptions might have mediated the association of the interaction between ambivalence and perceptions of spousal support at Time 1 and changes in marital satisfaction and support seeking. To test this possibility, we created a variable made up of the residuals obtained when wives' Time 1 perceptions of support were partialled from their Time 2 perceptions of support. This variable reflects change in women's perceptions of support from Time 1 to Time 2, and it served as the potential mediating variable in the analyses reported below. In effect, this general analysis strategy tests for mediated moderation effects (Baron & Kenny, 1986) in which moderated effects (interactions) from Time 1 that significantly predict Time 1–Time 2 changes in marital outcomes are identified and further tests are then conducted to identify the variables that mediate them.

To test whether changes in perceptions of support mediated the link between changes in marital satisfaction and support seeking and the interaction of Time 1 ambivalence and perceptions of support, we followed the recommendations of Baron and Kenny

⁸ These analyses are less powerful than the concurrent ones because they involve only the variance in each Time 2 criterion measure that is independent of the same measure at Time 1. Thus, the criterion variables in the prospective analyses typically have a more restricted range compared with those in the concurrent analyses.

⁹ For these prospective analyses, we used wives' prebirth (Time 1) perceptions of spousal support rather than their postbirth (Time 2) perceptions because we were testing for prebirth-to-postbirth changes in the dependent variables.

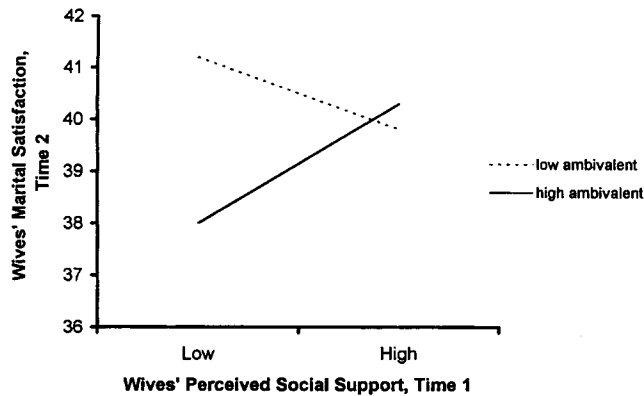


Figure 3. Wives' ambivalence and perceptions of spousal support (at Time 1) predicting changes in wives' marital satisfaction (i.e., wives' Time 2 satisfaction, controlling for their Time 1 satisfaction). Regression lines are plotted for individuals scoring one standard deviation above and below the mean on the variables.

(1986). The conditions necessary for mediation were not met in the analyses in which women's support seeking was the dependent measure. However, the necessary conditions did hold when change in marital satisfaction was the dependent measure. In particular, the relationship between the Time 1 Ambivalence \times Perceived Support interaction term dropped from $\beta = .17$ ($p < .05$) to $\beta = .07$ (*ns*) when change in perceived support was partialled, and Sobel's test indicated significant mediation ($z = 2.91$, $p < .01$).

The next analyses were designed to test the second set of hypotheses listed in the introduction. These analyses involved changes in husbands' feelings and responses toward their wife. As hypothesized, significant changes in husbands' feelings and responses were predicted by the interaction between wives' ambivalence and perceptions of spousal support at Time 1. Specifically, this interaction predicted husbands' Time 2 marital satisfaction, $F(1, 98) = 4.14$, $p < .05$, $\beta = .15$, husbands' reports of support given to their wife, $F(1, 98) = 8.30$, $p < .005$, $\beta = .29$, and husbands' reports of anger directed at their wife, $F(1, 98) = 16.16$, $p < .001$, $\beta = -.36$. Men married to more ambivalent women were less satisfied with their marriages, reported being less supportive, and reported behaving more angrily than men married to less ambivalent women if their wife perceived them as less supportive at Time 1. In contrast, men married to more ambivalent women actually were more satisfied, less angry, and more supportive than were men married to less ambivalent women if their wife perceived them as more supportive at Time 1. Thus, with the Time 1 marital variables statistically controlled, marital functioning across the transition to parenthood was poorer for men married to highly ambivalent women who viewed them as less supportive prior to childbirth, but it was relatively good for men married to highly ambivalent women who viewed them as more supportive before childbirth. Figure 4 illustrates this interaction pattern for husbands' marital satisfaction.

We next conducted analyses to determine whether husbands' reactions to more ambivalent women were mediated by prebirth-to-postbirth changes in their wife's perceptions of support. Specifically, we tested whether changes in husbands' marital satisfac-

tion and behavior were mediated by changes in their wife's perceptions of them as supportive versus unsupportive. The first of these analyses revealed that changes in men's self-reported supportiveness over time were significantly but only partially mediated by changes in their wife's perceptions of them as supportive versus unsupportive. In particular, after partialling the mediator, we found that the relation between the dependent measure (change in men's self-reported supportiveness) and the independent variable (the Time 1 interaction between women's ambivalence and perceptions of spousal support) dropped from $\beta = .29$ ($p < .005$) to $\beta = .17$ ($p < .05$), and Sobel's test indicated significant mediation ($z = 5.15$, $p < .001$).

An analysis of change in men's marital satisfaction showed marginally significant mediation by changes in wives' perceptions of spousal support. Specifically, the relation between wives' Time 1 interaction term and changes in husbands' satisfaction declined from $\beta = .15$ ($p < .05$) to $\beta = .09$ (*ns*), Sobel's $z = 1.65$, $p < .10$. Finally, analyses examining changes in husbands' reports of anger provided no evidence of mediation by changes in wives' perceptions of support, Sobel's $z < 1.0$.

Avoidance. We had no prospective predictions for avoidance. However, we conducted exploratory analyses that paralleled the prospective analyses for ambivalence described above. Tests of prebirth-to-postbirth changes indicated that wives' prebirth (Time 1) avoidance scores did not significantly predict changes in their perceptions of spousal support, support seeking, perceptions of their husband's anger, or marital satisfaction. Wives' avoidance did, however, predict changes in some of their husband's responses to them. The interaction between wives' avoidance and perceptions of spousal support prior to birth (at Time 1) predicted significant changes in their husband's reported supportiveness, $F(1, 98) = 4.48$, $p < .05$, $\beta = .20$, and anger, $F(1, 98) = 9.62$, $p < .01$, $\beta = -.27$. Specifically, husbands with more avoidant wives who perceived them (husbands) as low in supportiveness at Time 1 reported the highest levels of anger and the lowest levels of

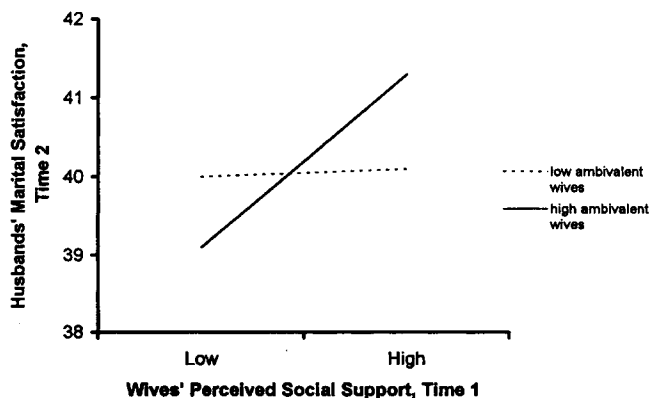


Figure 4. Wives' ambivalence and perceptions of spousal support (at Time 1) predicting changes in husbands' marital satisfaction (i.e., husbands' Time 2 satisfaction, controlling for their Time 1 satisfaction). Regression lines are plotted for individuals scoring one standard deviation above and below the mean on the variables.

supportiveness at Time 2.¹⁰ The interaction of women's Time 1 avoidance and perceptions of support was not significantly related to changes in women's perceptions of support. Consequently, neither of these effects met the requirements for mediation through changes in women's perceptions of support.

Concurrent Analyses: Postbirth (Time 2) Measures

Ambivalence. The next analyses used data from Time 2 to test the third and fourth sets of hypotheses listed in the introduction. The first of these analyses (Hypothesis Set 3) revealed that more ambivalent women perceived less support than did less ambivalent women at Time 2, $F(1, 101) = 57.30, p < .0001, \beta = -.59$.

The next analyses tested the hypothesized relations between wives' ambivalence and their support seeking, perceptions of anger, and marital satisfaction.¹¹ These analyses revealed that for more ambivalent wives support seeking was lower, $F(1, 101) = 13.52, p < .001, \beta = -.31$, perceptions of spousal anger were higher, $F(1, 101) = 43.98, p < .0001, \beta = .54$, and marital satisfaction was lower, $F(1, 101) = 60.50, p < .0001, \beta = -.59$. In contrast to our hypotheses, none of the interactions involving ambivalence and perceived spousal support were significant.

For exploratory purposes, we examined whether more ambivalent wives perceived their husband as less supportive than their husband reported being. We calculated residualized scores reflecting wives' Time 2 perceptions of support after partialing out the amount of Time 2 support their husband reported providing. We then correlated these scores with wives' ambivalence. The resulting correlation ($r = -.54, p < .001$) confirmed that more ambivalent wives perceived significantly less support than would be expected on the basis of their husband's self-reports, whereas less ambivalent wives perceived relatively more support.¹² This correlation remained significant when wives' level of avoidance was statistically controlled.

The next analyses (Hypothesis Set 4) tested concurrent predictions for men married to highly ambivalent women. We found that men married to more ambivalent women reported behaving more angrily, $F(1, 101) = 8.88, p < .005, \beta = .29$, being less supportive, $F(1, 101) = 10.22, p < .005, \beta = -.30$, and being less satisfied with their marriage, $F(1, 101) = 34.49, p < .001, \beta = -.49$. They also made more negative attributions about the emotional competence and maturity of their wife, $F(1, 101) = 20.89, p < .001, \beta = .43$. Interactions between wives' ambivalence and their perceptions of spousal support were not significant.

Avoidance. The next analyses (Hypothesis Set 5) pertain to predictions concerning concurrent support seeking by avoidant women. As predicted, more avoidant wives sought less support than did less avoidant wives at Time 2, $F(1, 101) = 20.04, p < .0001, \beta = -.39$.

Exploratory analyses revealed that more avoidant wives also reported being the targets of greater spousal anger, $F(1, 101) = 3.92, p = .05, \beta = .17$, and perceived less postpartum spousal support, $F(1, 101) = 4.03, p < .05, \beta = -.16$. Avoidance, however, was not significantly related to marital satisfaction. We also explored the possibility that highly avoidant wives might systematically perceive less support than their husband reported providing. Residualized scores of wives' Time 2 perceptions of support, controlling for their husband's reports of support, were significantly correlated with avoidance ($r = -.20, p < .05$),

indicating that more avoidant wives perceived less support than would be expected on the basis of their husband's reports. Because wives' avoidance and ambivalence scores were correlated, we next computed a partial correlation controlling for wives' ambivalence scores. No relationship was found between avoidance and the residualized scores after we partialled wives' ambivalence, $F(1, 103) < 1.0$. Thus, unlike ambivalence, there is little evidence that avoidance is strongly related to either underperceptions or overperceptions of spousal support.

Exploratory analyses of husbands' responses to more avoidant wives yielded no significant main effects for wives' avoidance. One significant interaction between wives' avoidance and perceptions of spousal support did emerge, however. It revealed that husbands directed greater anger at more avoidant wives than at less avoidant wives when wives' perceptions of support were lower, $F(1, 99) = 6.03, p < .05, \beta = -.29$. In contrast, when wives' perceptions of support were higher, their level of avoidance was not related to their husband's level of anger.

Concurrent Analyses: Prebirth (Time 1) Measures

Several hypothesized interactions involving wives' ambivalence and their perceptions of spousal support failed to reach significance in the Time 2 data, perhaps because of high levels of multicollinearity between these Time 2 variables. Wives' ambivalence and perceptions of support were less highly correlated at Time 1 than at Time 2 (see Table 5), suggesting that the predicted interactions might be statistically significant at Time 1.

Ambivalence. The analyses below test Hypothesis Set 3 for the Time 1 data. The analysis of women's perceptions of spousal support showed that more ambivalent women perceived less spousal support at Time 1, $F(1, 108) = 16.87, p < .001, \beta = -.37$.

The analysis of women's support seeking revealed that more ambivalent women sought less support from their husband at Time 1, $F(1, 108) = 7.84, p < .01, \beta = -.24$. It also revealed the expected interaction between ambivalence and perceived spousal support, $F(1, 106) = 11.42, p < .001, \beta = .30$, which showed that highly ambivalent women sought less support from their husband than did less ambivalent women if they perceived their husband to be less supportive. In contrast, highly ambivalent women sought more support than did less ambivalent women if they perceived their husband to be more supportive.

¹⁰ Additional analyses indicated that the relationship between women's ambivalence at Time 2 and men's self-reports of anger and supportiveness at Time 2 were not significantly moderated by (i.e., did not significantly interact with) men's ambivalence or avoidance, all $ts(100) < 1.0, ns$. Thus, men who scored low on ambivalence and avoidance (i.e., more secure men) and who were married to ambivalent women were about as likely to report displaying high levels of angry behavior and low levels of supportiveness as insecure men (i.e., those scoring high on these dimensions) were.

¹¹ Because the hypotheses of this study deal with attachment orientations, main effects involving perceived social support typically are not reported to simplify the results and maintain focus on the primary predictions.

¹² Among women in the upper half of the distribution of ambivalence scores, 64% reported less support than would be expected on the basis of their husband's self-reports, and 36% reported more support. Among women in the lower half of this distribution, 75% reported more support than would be expected, and 25% reported less support.

Table 5
Tests of Differences Between Prebirth and Postbirth Correlations Involving Wives' Ambivalence and Avoidance

Marital variable	Wives' ambivalence			Wives' avoidance		
	Time 1	Time 2	$\chi^2(1, N = 106)$	Time 1	Time 2	$\chi^2(1, N = 106)$
Husbands' reported support	-.09	-.36*	8.63**	-.20*	-.27*	1.21
Husbands' marital satisfaction	-.25*	-.53*	21.23**	-.33*	-.28*	0.34
Husbands' reported anger	.09	.33*	7.57**	.02	.24*	4.86*
Wives' perceived support	-.41*	-.65*	19.73**	-.29*	-.32*	1.84
Wives' marital satisfaction	-.36*	-.64*	24.06**	-.41*	-.32*	0.18
Wives' perceived anger	.41*	.60*	15.71**	.38*	.33*	0.27
Wives' support seeking	-.28*	-.38*	1.81	-.32*	-.38*	0.40

* $p < .05$. ** $p < .01$.

The analysis of women's perceptions of spousal anger indicates that women who were more ambivalent perceived greater anger, $F(1, 108) = 16.32, p < .0001, \beta = .36$. The interaction between ambivalence and perceptions of support also was significant, $F(1, 106) = 5.86, p < .02, \beta = -.18$. When support was perceived as low, more ambivalent women perceived greater anger relative to less ambivalent women. Conversely, when support was perceived as higher, there was virtually no relationship between perceptions of anger and women's ambivalence. The analysis of marital satisfaction indicates that women who were more ambivalent were less satisfied with their marriage, $F(1, 108) = 9.42, p < .005, \beta = -.27$. The interaction between ambivalence and spousal support was not significant, however.

Analyses also were conducted to test relationships between wives' ambivalence, their perceptions of spousal support, and their husband's self-reported supportiveness, anger, and marital satisfaction (Hypothesis Set 4). No significant effects emerged.

Avoidance. The analysis testing Hypothesis Set 5 using the Time 1 data revealed that more avoidant women sought less support from their husband, $F(1, 108) = 16.97, p < .001, \beta = -.37$.

Exploratory analyses indicated that women who were more avoidant perceived greater spousal anger, $F(1, 108) = 4.84, p < .05, \beta = .20$, and were less satisfied with their marriage, $F(1, 108) = 9.12, p < .005, \beta = -.27$. Exploratory analyses also revealed that men married to more avoidant women reported less marital satisfaction, $F(1, 198) = 5.04, p < .05, \beta = -.21$.

Prebirth Versus Postbirth Differences in Correlations: Ambivalence and Avoidance

To test the sixth set of hypotheses, we tested correlations between wives' attachment dimensions and the dependent variables at Time 1 and Time 2 to determine whether the strength of these correlations differed between the two periods. We used structural equation modeling (Bentler, 1995) to test for time period differences. To perform these tests, wives' ambivalence at Time 1 and Time 2 and each dependent variable at each time period were set to load on their own factor. Each factor was then allowed to correlate with all other factors. In one of these analyses, the correlation between Time 1 ambivalence and each dependent vari-

able measured at Time 1 was set to be equal to the correlation between Time 2 ambivalence and each dependent variable measured at Time 2. In a second companion analysis, this constraint was dropped. We then compared the chi-square values obtained from each analysis. A significant chi-square suggests that the correlations within each time period are significantly different. We also conducted a parallel set of analyses examining correlations between avoidance and the dependent measures at Time 1 versus Time 2.

Two omnibus tests involving all of the dependent variables in Table 5 were conducted to determine whether follow-up tests of each dependent variable were necessary. Overall, the correlations between wives' ambivalence and the entire set of dependent variables were larger in the postbirth (Time 2) period than in the prebirth (Time 1) period, $\chi^2(7, N = 106) = 54.54, p < .001$. As shown in Table 5, separate follow-up analyses (testing one constraint at a time for the significance of individual pairs of correlations involving each dependent variable) revealed that, except for wives' support seeking, the individual correlations between wives' ambivalence and each dependent variable obtained from both spouses were significantly larger in the postbirth (Time 2) period than in the prebirth (Time 1) period. In addition, an omnibus test revealed that, overall, the correlations between wives' avoidance and the entire set of dependent variables were also significantly larger in the postbirth than in the prebirth period, $\chi^2(7, N = 106) = 18.92, p < .05$. Separate follow-up tests for each dependent variable (see Table 5) indicated that only the correlations between wives' avoidance and husbands' reports of anger were significantly different across the two time periods.

Discriminant Validity Analyses

Ambivalence was significantly correlated with neuroticism for both men ($r_s = .30$ and $.19$ for Times 1 and 2, respectively) and women ($r_s = .29$ and $.26$, respectively). Avoidance was not significantly correlated with neuroticism. To determine whether the significant effects for ambivalence reported above were confounded with neuroticism (cf. Karney & Bradbury, 1997), we statistically controlled neuroticism in a series of new analyses before we tested the effects of ambivalence. Twenty-one of 23 significant effects remained significant, and the remaining 2

dropped to marginal significance ($p < .10$).¹³ Consistent with past research (e.g., Simpson et al., 1992), these results indicate that the relationships between ambivalence and the dependent measures were largely independent of neuroticism.¹⁴

Discussion

This is one of the first studies to document that adult attachment orientations predict changes in marital relationships across a stressful life transition. It demonstrates that women's ambivalence and prenatal perceptions of spousal support interact to predict marital functioning for both wives and their husbands during the transition to parenthood. Specifically, wives who were more ambivalent and perceived lower levels of spousal support at Time 1 showed comparatively large declines in perceptions of spousal support across the transition period. They also showed comparatively large declines in support seeking and marital satisfaction.

Mediation analyses revealed that the relation between changes in wives' marital satisfaction and the interaction of wives' Time 1 ambivalence and perceptions of spousal support was mediated by changes in perceived spousal support across the transition. In other words, we found evidence for mediated moderation (Baron & Kenny, 1986). Highly ambivalent women who perceived lower prenatal support from their husband experienced larger declines in perceived spousal support across the transition, which in turn was associated with larger declines in their marital satisfaction.

The interaction between wives' ambivalence and perceptions of support at Time 1 also predicted declines in their husband's marital satisfaction and support giving as well as increases in their husband's anger. Changes in wives' perceptions of spousal support across the transition also mediated the relation between changes in husbands' support giving and marital satisfaction and the interaction of wives' ambivalence and perceptions of support at Time 1. Specifically, more ambivalent women who perceived less support at Time 1 showed comparatively large declines in perceptions of support from Time 1 to Time 2, and these declines mediated changes in their husband's marital satisfaction and support giving. Thus, the apparent deleterious effects of ambivalence were moderated and in some cases mediated by wives' perceptions of insufficient spousal support across the transition to parenthood.

Highly ambivalent wives who perceived higher levels of support from their husband before childbirth reported comparatively good marital functioning at Time 2. This finding is particularly important with regard to husbands' reports of marital satisfaction, supportiveness, and anger. Despite the fact that men often report being very dissatisfied with ambivalent romantic partners (see Feeney, 1999), it appears that long-term relationships with highly ambivalent women can be just as rewarding—and perhaps at times more rewarding—than other relationships. Past research has shown that highly ambivalent individuals have more variable perceptions of their relationships over short periods of time (Tidwell, Reis, & Shaver, 1996), that they view their partner and relationship more negatively after trying to resolve major relationship-based conflicts (Simpson et al., 1996), and that they idealize their partner and relationship when things are going well (cf. Hazan & Shaver, 1987). These past findings, combined with the present ones, suggest that the satisfaction and quality of highly ambivalent individuals' relationships may be jointly dependent on how their partner behaves toward them and how they view their partner. The quality

of their relationship is not exclusively or irrevocably undermined by the negative aspects of their working models. This is consistent with Bowlby's (1973) claim that relationship functioning is influenced both by working models and contemporary conditions and events in relationships.

Correlations between ambivalence and all but one of the marital measures were stronger in the postbirth period (Time 2) than in the prebirth period (Time 1). Attachment theory contends that stressful situations should elicit attachment-related behaviors that normally lie dormant and unexpressed in nonstressful contexts (Bowlby, 1969, 1988), and several studies have confirmed this central tenet of the theory (e.g., Mikulincer et al., 1993; Simpson et al., 1992, 1996). Correlations between avoidance and the marital measures, however, were not significantly larger in the more stressful post-birth period (Time 2), even though stress does amplify the behavioral effects of avoidance in some circumstances (e.g., when fear or apprehension is high; see Mikulincer & Florian, 1998). These null results imply that the transition to parenthood may not have activated the attachment systems in most highly avoidant spouses.

The concurrent analyses supported most of our primary hypotheses. More avoidant women sought less support from their husbands at Times 1 and 2. In addition, more ambivalent women and their husbands experienced lower levels of marital satisfaction and functioning at both time periods. We predicted that the concurrent associations between ambivalence and marital functioning would be moderated by perceptions of spousal support. In several instances, interactions revealing moderation did emerge in the Time 1 data but not in the Time 2 data. As noted above, moderation effects are difficult to obtain when variables correlate highly (Baron & Kenny, 1986). The correlation between wives' ambivalence and perceptions of spousal support were significantly higher at Time 2 than at Time 1. This could explain why moderating effects did not emerge at Time 2.

Stress and Coping in the Transition to Parenthood

The hallmark of avoidance is a desire to maintain psychological independence and autonomy. Therefore, highly avoidant persons should enact behaviors that create or reestablish independence and self-reliance when they feel their independence or autonomy is challenged or threatened (either by their own distress or their partner's distress) in situations that call for giving or receiving

¹³ We also conducted analyses to determine whether item overlap (i.e., different scales having items with similar content) might have inflated our results. Specifically, we identified and then dropped items from the Satisfaction subscale of the DAS (our main dependent measure) that appeared redundant with items on other scales that were predictor variables. When we reconducted our major analyses, the results did not change. Furthermore, when we correlated the potentially overlapping items with each of our dependent measures and compared the size of these correlations with correlations involving items that had no apparent content overlap, all items correlated at roughly the same levels with each dependent measure. Thus, item overlap does not appear to pose a problem in this study.

¹⁴ We also tested for curvilinear effects involving men's and women's attachment orientations and women's perceptions of spousal support at Time 1. Of the 22 tests conducted, only two significant effects emerged, an outcome that would be expected by chance. When these curvilinear effects were partialled, the interactions described above remained significant.

support (Crittenden & Ainsworth, 1989). One way avoidant persons maintain independence is by withdrawing from others. For avoidant persons, withdrawal is not only a means to achieve independence; it also functions as a defensive mechanism for coping with stress. If this strategy is successful, avoidant persons should experience relatively little disruption in their emotional life and relationships. Indeed, a strong effect was found for avoidance and support seeking in the present study. It revealed that women who were more avoidant attempted to solve their problems on their own rather than seek support from their husband. The comparatively meager disruptive effects of the transition to parenthood on the marriages of highly avoidant women suggest that their withdrawal strategy was successful. Had the level of stress been greater (e.g., if they were dealing with the death of a child), a withdrawal strategy might not have been effective, and the marriages of highly avoidant women might then have been disrupted.

The hallmark of ambivalence is chronic resentment and concern about deficient attention and support originating from deep-seated concerns that attachment figures will not be available and supportive when needed. Stressful situations raise fears that attachment figures might be unavailable and, therefore, should activate attention-getting behaviors from individuals with ambivalent working models (Cassidy & Berlin, 1994). Many highly ambivalent wives in this study perceived that their needs for attention and support were not being met by their husband. If, however, they perceived their husband to be highly supportive before childbirth (at Time 1), these positive perceptions seemed to allay the deep-seated worries and concerns harbored by highly ambivalent wives, freeing them to deal with the ensuing challenges of the transition to parenthood more effectively. Thus, chronic stress does not inevitably disrupt the relationships of highly ambivalent women.

Correlations between wives' attachment and the marital measures were significantly larger in the postbirth period (at Time 2) than in the prebirth period (at Time 1) for the ambivalent but not the avoidant dimension. Highly ambivalent wives should have found the postbirth period especially difficult for two reasons. First, most should have believed that their needs for attention and support were not being met by their husband. Second, as changes in the measures of marital functioning from Time 1 to Time 2 imply, the enhanced marital conflict associated with having a new baby should have activated latent fears that attachment figures cannot be depended on in times of need (cf. Kobak & Duemmler, 1994; Simpson et al., 1996). Because concerns about the dependability of attachment figures are not as relevant to avoidant persons and because the withdrawal coping strategy apparently used by more avoidant women seemed to have been effective, correlations between avoidance and the marital measures should not have been stronger during the postbirth period.

Perceptions of Support

Anan and Barnett (1999) have recently reported that children who are more securely attached to their parents at age 4 perceive more social support at age 6, and their perceptions of support, in turn, affect social information processing. Specifically, children who perceive greater support are more likely to view ambiguous social interactions as prosocial rather than aggressive. Consistent with these findings, research with adults has shown that persons who typically perceive less available social support are less likely

to remember others' helpful behaviors and are more likely to interpret supportive behaviors in negative terms (Lakey & Casady, 1990). These findings suggest that more ambivalent women in the present study may have perceived less spousal support than actually was available because their negativistic working models conditioned their perceptions. Collins and Feeney (2000), in fact, have documented that when highly ambivalent individuals receive nonsupportive (ambiguous) written messages from their romantic partners immediately before doing a stressful task, they infer lower levels of support than do less ambivalent individuals, and they rate their partners' interaction behaviors (after the task) as less supportive than do neutral observers.

Evidence for biased information processing by ambivalent persons is indirect in our study. Analyses reported above revealed that more ambivalent women perceived less spousal support than would be expected on the basis of their husband's reports of the support they offered their wife. Moreover, subsidiary analyses (not reported in the Results section) indicated that greater ambivalence in wives was associated with lower perceptions of spousal support when both husbands' and wives' marital satisfaction and general marital quality were statistically controlled.¹⁵ Thus, a significant portion of the variance in wives' perceptions of support must be explained by variables other than marital quality, marital satisfaction, and the degree of support husbands claim they offer. We believe the most likely alternative explanation is that highly ambivalent women's working models partially bias their perceptions of spousal support in a negative direction.

Even though highly ambivalent wives' perceptions of spousal support may have been distorted, men married to more ambivalent women reported that they were, in fact, less supportive and behaved more angrily than husbands married to less ambivalent women. These reports are likely to be credible because they are not correlated with husbands' own attachment orientations and they involve self-reports of relatively undesirable behavior. Even husbands with more secure orientations admitted that they gave less support to more ambivalent wives. Hence, highly ambivalent wives' perceptions of less spousal support probably do contain at least a kernel of truth.

Husbands' lower supportiveness and greater anger could stem from either of two processes. First, highly ambivalent wives might behave in ways that lead their husband to withdraw support and affection over time, particularly in highly stressful situations (see Bowlby, 1973; Snyder, 1984). As noted above, highly ambivalent wives perceived their husband to be less supportive than their husband reported being. Thus, the feedback that men married to highly ambivalent women receive is likely to be neither self-verifying (Swann, 1990) nor self-enhancing (Murray & Holmes, 1997), and this could explain why these men withdraw support. Second, husbands' self-definitions and self-perceptions may be altered by their wife's perceptions (cf. Drigotas, Rusbult, Wieselquist, & Whitton, 1999). A negotiated reality may gradually emerge in which husbands who are viewed by their wife as unsupportive, undependable, or angry eventually accept these spouse-imposed definitions. As part of the negotiation process,

¹⁵ Specifically, to control for marital quality effects, we entered the Braiker and Kelley (1979) measure before the main predictor variables in replications of the major analyses reported above.

highly ambivalent wives may, for instance, selectively define supportiveness to emphasize behaviors that are difficult for their husband to enact, or they may deemphasize or discount supportive behaviors their husband routinely displays. What constitutes supportive behavior, therefore, may be defined in ways that minimize or do not fully acknowledge husbands' efforts to be supportive. In addition, highly ambivalent wives may simply claim that their husband is unsupportive, undependable, or angry so consistently that their husband begins to incorporate these attributes into his own self-view. At present, it is unclear whether wives' impact on husbands' supportiveness operates primarily through husbands' frustration and withdrawal of support or through changes in husbands' self-definitions.

The Transition to Parenthood

The transition to parenthood was chosen as the stressful context in which to test predictions derived from attachment theory. Consequently, attachment theory rather than the transition to parenthood was the focus of this investigation. However, the present study adds to the transition literature by demonstrating that declines in marital satisfaction are especially pronounced for women who are highly ambivalent and for men married to these women. It also reveals that situational factors that are particularly troubling to persons with ambivalent working models (e.g., perceptions of inadequate spousal support) moderate these effects.

For reasons outlined in the introduction, the present study focused more on wives' than on husbands' negotiation through the transition to parenthood. Many of the findings confirmed that this focus was appropriate. Wives' ambivalence, for instance, strongly predicted both their own and their husband's marital satisfaction. This indicates that wives' attachment status played a prominent role in the current results and that husbands' marital outcomes were highly dependent on their wife's attachment orientation. This pattern of results, however, might not emerge in other circumstances. If, for example, husbands had recently become unemployed, they (rather than their wife) may have been the more distressed partner, and their attachment orientation might then have a stronger bearing on marital functioning and outcomes. The impact of men's and women's attachment orientation on relationship outcomes, therefore, may vary depending on which partner is most distressed or on other circumstantial factors.

Caveats and Conclusions

When interpreting these results, it is important to keep several caveats in mind. First, the results show that highly ambivalent women perceive less spousal support. Although we interpret this effect to be partially determined by the nature of their working models, it is possible that highly ambivalent women either choose or are chosen by less supportive spouses. Second, causal conclusions cannot be made given the correlational nature of our data. Third, it is unclear whether the present findings would necessarily generalize to other cultural settings. For example, in cultures in which men are socialized and expected to provide high levels of support over the transition period, highly ambivalent wives may be less likely to perceive deficient support and, therefore, less likely to experience declines in marital satisfaction. Fourth, our measures of support primarily assessed emotional support. It is possible that

highly avoidant women desire and seek more instrumental forms of support, which would not have been detected in this study. Fifth, because we did not have a control sample of married couples, we do not know whether the same patterns of findings might have been found in childless couples. Finally, it is possible that expectant parents who attend childbirth classes may not be fully representative of expectant parents in general. Therefore, generalizations to other samples of expectant parents must be made cautiously.

In conclusion, using a prospective design, the present study finds support for hypotheses derived from a central premise of attachment theory: that perceptions of inadequate support from attachment figures during a major life stressor should moderate and mediate relations between ambivalence and important relationship outcomes. These findings demonstrate and extend the notion that attachment orientations have contextually dependent effects on behavior and relationships.

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The Publications and Communications Board has opened nominations for the editorships of *Journal of Experimental Psychology: Animal Behavior Processes*, *Journal of Personality and Social Psychology: Personality Processes and Individual Differences*, *Journal of Family Psychology*, *Psychological Assessment*, and *Psychology and Aging* for the years 2004-2009. Mark E. Bouton, PhD, Ed Diener, PhD, Ross D. Parke, PhD, Stephen N. Haynes, PhD, and Leah L. Light, PhD, respectively, are the incumbent editors.

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