How Does Context Affect Intimate Relationships? Linking External Stress and Cognitive Processes Within Marriage

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Stressors external to the marriage frequently affect the way spouses evaluate their marital quality. To date, however, understanding of the interplay between external stress and internal relationship processes has been limited in two ways. First, research has generally examined only the short-term consequences of stress. Second, the mechanisms through which external stressors influence relationship outcomes are unclear. This study addressed both limitations by examining relationship cognitions that may mediate the effects of external stress throughout 4 years of marriage. Analyses confirmed that stressful experiences were associated with the trajectory of marital quality over time. Furthermore, both the content and the organization of spouses' specific relationship cognitions mediated this effect. That is, stress negatively influenced the nature of spouses' marital perceptions as well as the way spouses interpreted and processed those perceptions. These findings draw attention to ways that the context of relationships shapes and constrains relationship processes.

Keywords: *stress; marital quality; relationship maintenance; relationship cognitions; attributions*

Intimate relationships can be powerfully affected by their context. When that context contains challenges, such as work stress or financial difficulties, relationship satisfaction tends to be lower and rates of dissolution higher (Bahr, 1979; Lavee, McCubbin, & Olson, 1987). Moreover, the experience of stressful events predicts future relationship quality (Bodenmann, 1997), suggesting that stress may lead to dissatisfaction. Given that even the happiest couples are likely to experience stressors that strain the relationship (Robinson & Jacobson, 1987), variables outside of partners and their interactions may play important roles in accounting for relationship development and change. Consequently, theories of relationship development have begun to incorporate the external circumstances of the relationship as a prominent feature (Karney & Bradbury, 1995).

Despite the increasing attention to the effects of context on intimate relationships, however, the mechanisms of these effects are not well understood. How do stressful experiences external to a relationship affect processes within the relationship? A number of theoretical perspectives agree that any variable affecting the course of a relationship may ultimately do so through its effects on the way partners think about and process their experiences within the relationship (Bradbury & Fincham, 1991; Karney, McNulty, & Frye, 2001). That is, change in a relationship may be at its heart a cognitive phenomenon in that the decision to end a committed relationship always involves at least one partner experiencing a change from an initially positive relationship attitude to a negative attitude. Accordingly, a large body of research on relationship maintenance has focused on cognitive processes within relationships, demonstrating reliable links between particular cognitions and relationship outcomes (e.g., Murray & Holmes, 1999; Showers & Kevlyn, 1999). Yet, to date, research on relationship cognitions has been conducted almost exclusively without regard to the context within which those cognitions are occurring.

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Thus, even though substantial bodies of work link relationship outcomes to circumstances outside of the dyad as well as to processes within the partners, these lines of research have generally proceeded in parallel, with neither literature informing the other. A premise of the current study is that elaborating on current models of relationship development requires bridging the gap between existing theories of relationship maintenance and research on stressful events. Accordingly, the goal of the study described here was to examine how cognitive processes of relationship maintenance may mediate the effects of external stress on the development of relationship satisfaction over time. To accomplish this goal, the remainder of the introduction first briefly reviews research linking external stress to relationship quality. The next section ties this research to cognitive theories of relationship maintenance by proposing that external stress may affect relationship satisfaction by giving rise to negative perceptions within the relationship and, independently, by limiting spouses' ability to process and organize those perceptions in a relationship-enhancing manner. The final section describes a study designed to evaluate these ideas by examining the longitudinal associations between external stressors and relationship cognitions throughout 4 years of marriage.

STRESS AND RELATIONSHIP QUALITY

The experience of negative stressors in domains external to the relationship often is associated with changes in individuals' thoughts and behaviors within the relationship, a phenomenon referred to as stress spillover (Bolger, DeLongis, Kessler, & Wethington, 1989; Repetti & Wood, 1997). For instance, daily diary studies indicate that increases in stress outside the home may impede effective interactions between spouses. A study of daily work stress in male air traffic controllers revealed that both the air traffic controllers and their wives described husbands' behavior at home as more withdrawn after busier work shifts than after work shifts that were relatively stress-free (Repetti, 1989). Similarly, arguments in the home are more likely to be reported on days in which individuals report distressing encounters with coworkers and supervisors outside the home (Bolger et al., 1989; Repetti & Wood, 1997). Changes in stress also may result in individuals altering their appraisals of their spouses, because increases in individuals' daily work stress have been linked to less accepting views of family members (Crouter & Bumpus, 2001).

Furthermore, cross-sectional evidence indicates that as stress increases, individuals tend to report increasingly negative evaluations of their global relationship satisfaction (Bodenmann, 1997; Tesser & Beach, 1998). In fact, preventing stress from spilling over to relationship evaluations may be an effortful process. In a series of studies, Tesser and Beach (1998) found that individuals under moderate stress tended not to report lowered relationship satisfaction. As stress increased from moderate to high, however, increases in stress were associated with declines in relationship satisfaction. To explain these findings, the authors postulate that individuals under moderate stress may be aware of the possible influence of their stress on relationship judgments and thus will attempt to discount their feelings of stress when making relationship evaluations. When stress levels are high, though, individuals' stress may overwhelm their cognitive resources, thereby interfering with their ability to separate external stress from their relationship satisfaction. As a result, higher stress may result in greater stress spillover.

STRESS SPILLOVER AND LONG-TERM MARITAL DEVELOPMENT

Overall, then, converging evidence indicates that external stress may spill over to affect spouses' judgments within the relationship. The existing spillover literature, however, is nonetheless limited in two ways. First, even though much of the research on stress spillover has been longitudinal, the long-term consequences of stressful experiences for marital development have rarely been explored. Instead, most spillover research has examined links between stress and relationship well-being through daily diary studies. These designs allow researchers to examine the within-subjects association between fluctuations in stress and variability in well-being, controlling for extraneous variables such as personality or general response tendencies. However, because daily diary data is difficult to obtain, existing research has examined only the short-term consequences (e.g., days to weeks) of stress for relationships. Given that systematic changes in marital satisfaction occur over years rather than days, further longitudinal research is necessary to investigate how external stress may be linked to the deterioration of relationship quality over the course of a relationship. To address this limitation, the first goal of the current study was to examine within-person associations between negative stressors and marital satisfaction throughout 4 years of marriage. In line with previous research, increases in spouses' external stressors were expected to be associated with decreases in their marital satisfaction. Furthermore, stress spillover was expected to have long-term consequences for marital development. Namely, spouses who are the most vulnerable to stress spillover effects also should exhibit the greatest declines in relationship quality over time.

THE MECHANISMS UNDERLYING STRESS SPILLOVER

A second limitation of existing stress spillover research is the failure to examine why external stressors may affect spouses' relationship evaluations. The second goal of the study was to examine two potential mechanisms for this effect. The first, and most direct, mechanism involves the content of spouses' relationship perceptions. Prior research has established that increases in stress are associated with increases in negative behaviors within the relationship (Bolger et al., 1989). Given that changes in daily relationship experience often are associated with changes in specific perceptions about the relationship (McNulty & Karney, 2001), increases in spouses' external stressors also should be accompanied by corresponding increases in the negativity of their specific relationship perceptions; that is, if spouses are experiencing more negative interactions with each other, they are likely to perceive more specific problems in the relationship. For instance, if a couple under stress begins arguing more often, spouses may come to hold the beliefs that their communication skills are suffering or that their partner is not very understanding. In this way, increases in stress should be associated with increases in the perception of relationship problems, resulting in lowered overall relationship satisfaction.

A second, and theoretically independent, mechanism through which external stress may affect relationship evaluations is more indirect. Stress may affect not only the nature of spouses' perceptions of the marriage but also the way spouses interpret and process those perceptions. For example, research on cognitive processes in relationships suggests that satisfaction may be shaped not only by what intimates believe about their relationships but also by how those relationship perceptions are integrated within an overall representation of the relationship (Karney et al., 2001; Murray & Holmes, 1999; Showers & Kevlyn, 1999). Maintaining satisfaction over the course of a continuing relationship requires that intimates resolve their positive global evaluation of the relationship with the negative specific perceptions that inevitably arise. The difference between satisfaction that endures and satisfaction that declines may lie in the different ways that this process of reconciliation can take place (Murray & Holmes, 1999; Showers & Kevlyn, 1999). When a specific relationship perception is positive, linking that perception to the global relationship evaluation will likely promote satisfaction. However, when a specific perception is negative, linking that perception to the global evaluation will likely result in a deterioration of relationship satisfaction. In other words, any cognitive organization that serves to separate specific negative perceptions from the broader positive view of the relationship enhances relationship outcomes.

This coping response to negative relationship perceptions, however, may be adversely affected by increases in the experience of external stressors. Coping with a number of stressful events may tax intimates' cognitive resources, leaving intimates with fewer resources to manage their negative relationship perceptions (McCubbin & Patterson, 1983). As a result, intimates' information processing within the relationship may be simplified when they are distracted by external stress (e.g., Hammond, 2000). For instance, distracted individuals tend not to correct for situational influences when judging the behavior of others, instead relying on dispositional attributions of behavior (Gilbert, Pelham, & Krull, 1988). Thus, to the extent that maintaining a relationship-enhancing cognitive organization requires cognitive effort, individuals may find it difficult to separate their specific negative perceptions from their global relationship satisfaction while also attempting to manage their external stress. As stress increases, spouses may organize their specific negative perceptions in a less relationship-enhancing manner, resulting in decreases in their global marital satisfaction. Overall, then, the experience of external stressors should provide individuals with more negative perceptions to deal with in the relationship as well as affect individuals' ability to subsequently cope with this increase in negative relationship perceptions effectively.

OVERVIEW OF CURRENT STUDY

To address the long-term consequences of stress spillover, and to examine potential mechanisms underlying the phenomenon, the current study examined how external stress may affect cognitive processes over the course of a continuing marriage. Newlywed couples participating in a broader study of marital development provided information concerning their stressful experiences, their specific relationship perceptions, and their overall relationship satisfaction every 6 months throughout the first 4 years of marriage. The use of a sample of newlyweds provided several advantages. First, newlyweds are an appropriate sample in which to examine issues of change and stability. Compared to more established marriages, these couples experience more dramatic changes in relationship quality and are at elevated risk of marital disruption (Cherlin, 1992). Second, couples in the early years of marriage may be more likely to be exposed to a variety of stressful life events because a number of stressors tend to accompany the transition to marriage (e.g., relocation, starting a new job).

Evaluating the role of stressors on relationship processes requires attention to two important methodological issues. The first issue involves the distinction between chronic and acute stress. By definition, chronic stress refers to a stable stressor experienced over an extended

duration of time, such as living in a dangerous neighborhood. Conversely, acute stress refers to stressful events that occur at one point in time and have a clear onset and offset, such as a temporarily heavy workload. Unlike chronic stress, which tends to remain constant over long periods of time, acute stress is likely to vary substantially over time. Given our intent to examine whether variations in stress are associated with variations in cognitive processing, the current study relied on measures of acute stress rather than of chronic stress.

The second issue involves the distinction between positive and negative external stressors. Theoretically, stressful events may include any event that requires adaptation by the individual, regardless of whether the event is positive or negative. Empirical evidence, however, suggests that the adaptation to negative events taxes individuals in a way that positive events do not. Although negative events have been found to have clear, consistent patterns with psychological distress, findings with respect to positive events tend to be weak and contradictory (Turner & Wheaton, 1997). In other words, adapting to winning the lottery seems to be less of a challenge than adapting to the loss of a job. For this reason, the current study focused on the influence of negative stressors.[1]

Analyses of these data addressed four specific questions. First, are fluctuations in stress associated with corresponding changes in spouses' marital satisfaction over time? In other words, can evidence of stress spillover be found over the course of a long-term relationship? Extending prior diary research on stress spillover, the current study examined the within-person association between negative external stress and marital satisfaction throughout 4 years of marriage. It was predicted that increases in stress would be associated with corresponding decreases in satisfaction.

Second, does stress spillover have long-term consequences for marital development? That is, for some spouses, the experience of external stress may be very closely linked to their satisfaction, whereas for others, this association may be weaker. It was predicted that spouses who are more reactive to their stress (i.e., experience higher levels of stress spillover) also should exhibit steeper declines in satisfaction throughout 4 years of marriage than those who are less vulnerable to stress spillover. In other words, spouses' susceptibility to stress spillover was expected to have consequences that extended beyond the immediate stressful period.

Third, does spouses' cognitive content mediate the stress spillover effect? Given that prior research suggests that stress is associated with more negative interactions within the marriage, stress also should be associated with the types of perceptions spouses hold about the relationship. The current study examined the within-person association between changes in negative stressors and changes in specific relationship perceptions throughout 4 years of marriage. It was predicted that increases in stress would be associated with increases in the perception of marital problems and that this association would mediate the stress spillover effect.

Finally, does spouses' cognitive organization mediate the stress spillover effect, independent of the effects of cognitive content? Coping with external stressors may leave spouses with fewer resources for coping with their negative relationship perceptions, resulting in a less relationship-enhancing cognitive organization. The current study examined the within-person association between external stressors and cognitive organization over time. In particular, this study examined the association between stress and spouses' attributions for their partners' behavioral transgressions. Attributions represent a process in which spouses determine whether their partners' specific behavioral failings are to be taken as an indication of broader faults in the relationship or whether these behaviors should be separated from overall judgments of the relationship. Relying on temporary, situational attributions to describe a partner's transgression should serve to weaken the link between the negative specific behavior and spouses' global relationship evaluation (Holzworth-Munroe & Jacobson, 1985; McNulty & Karney, 2001). Thus, attributional processes represent one way that spouses may integrate their specific relationship perceptions within a global relationship impression. It was predicted that increases in stress would be associated with increasingly maladaptive attributions, even when controlling for changes in spouses' cognitive content. This association also was expected to mediate the stress spillover effect.

METHOD

Participants

Couples were recruited for this study using two methods. First, advertisements were placed in community newspapers and bridal shops. Second, letters were sent to couples who had applied for marriage licenses in Alachua County, Florida. Couples responding to either method of solicitation were screened in a telephone interview to determine whether they met the following criteria: (a) this was the first marriage for each partner, (b) the couple had been married less than 6 months, and (c) neither partner had children. The final sample consisted of 82 couples. Analyses revealed no significant differences in age or education between couples recruited through each type of solicitation.

On average, husbands were 25.1 (SD = 3.3) years old and had received 16.3 (SD = 2.4) years of education. Forty percent were employed full-time and 54% were

full-time students. Wives averaged 23.7 (*SD* = 2.8) years old and had received 16.3 (*SD* = 1.2) years of education. Thirty-nine percent were employed full-time, and 50% were full-time students. Slightly more than 70% of the sample was Christian and 83% of husbands and 89% of wives were White. The average combined income of couples was less than $20,000 per year.

Procedure

Couples were contacted by phone every 6 months throughout a 4-year period. At each assessment, couples were mailed a packet of questionnaires containing self-report measures of stress and of relationship perceptions as well as a letter instructing couples to complete all questionnaires independently of one another. After returning the questionnaires via mail, couples were paid $25. At Time 8, the final wave of data collection, 66 couples were still married and 18 couples had divorced. Of the 66 couples who were still married and participating in the study, 55 couples (83.0%) returned completed packets at Time 8. However, as data were examined through growth curve modeling, participants who did not provide all eight waves of data (i.e., participants who had missing data or divorced during the study) could be included in all analyses. Thus, results reported below are based on data from all 82 couples.[2]

Materials

Global marital satisfaction. Many frequently administered measures of relationship satisfaction (e.g., the Marital Adjustment Test) (Locke & Wallace, 1959) include items that assess global relationship evaluations as well as items assessing perceptions of specific aspects of the relationship (e.g., communication skills). To ensure that global evaluations and specific perceptions were not confounded in the present study, and to increase confidence that results were not idiosyncratic to a particular measure of the dependent variable, marital satisfaction was assessed at each time point using two measures that focused on global relationship evaluations exclusively. First, spouses completed a 15-item version of the Semantic Differential (SMD) (Osgood, Suci, & Tannenbaum, 1957). Spouses were asked to indicate their current feelings about their marriage on 7-point scales between two opposing adjectives (e.g., *satisfied-dissatisfied*, *unpleasant-pleasant*). Scores on the measure can range from 15 to 105, with higher scores indicating greater satisfaction. The internal consistency of the measure was high across all waves of data collection, ranging from .91 to .98 for both spouses.

Second, spouses completed the Quality of Marriage Index (QMI) (Norton, 1983). This measure asks spouses to indicate the extent to which they agree with six relationship statements, such as, "We have a good marriage" and "Our marriage is strong." Scores on the measure can range from 6 to 45, with higher scores indicating greater satisfaction. Internal consistency of this measure also was high, ranging from .91 to .99 for both spouses.

Specific relationship perceptions. Specific relationship perceptions were assessed at each time point using the Marital Problems Inventory (MPI) (Geiss & O'Leary, 1981). This measure lists potential problem areas in a marriage and asks participants to rate each item on a scale from 1 (*not a problem*) to 11 (*major problem*). Of the 19 problems included on the original measure, we selected only those problems that are internal to the relationship to be included in the final composite score. Thus, seven items that may represent external stressors on the relationship (e.g., friends, money management) were not included in the composite score. The remaining 12 items (e.g., trust, making decisions, showing affection) were summed to form an index of the negativity of spouses' relationship perceptions. Composite scores could range from 12 to 132, with higher scores representing more negative relationship perceptions. Internal consistency of the measure was high, ranging from .85 to .92 for both spouses.

Cognitive organization. Attributions represent one process through which spouses may integrate their specific perceptions within an overall representation of the relationship (McNulty & Karney, 2001). Spouses' attributions were assessed at each time point using the Relationship Attributions Measure (RAM) (Fincham & Bradbury, 1992). This measure presents spouses with four negative events that are likely to occur in all marriages (e.g., "Your spouse does not pay attention to what you are saying"). For each event, spouses are asked to rate their agreement, on 7-point scales, with several statements that reflect two subscales. The causal attribution subscale examines the perceived locus, globality, and stability of the cause of the negative partner behavior. The responsibility attribution subscale captures the extent to which spouses consider their partners' behaviors as intentional, selfishly motivated, and blameworthy. For each subscale, a composite score was computed, resulting in two scores for each spouse with possible ranges of 12 to 84. Higher scores indicate more negative attributions. Coefficient alphas for causality attributions ranged from .85 to .92 for husbands and from .73 to .86 for wives. Alphas for responsibility attributions ranged from .89 to .95 for husbands and from .88 to .91 for wives. Causality and responsibility attributions were significantly correlated for husbands (ranging from .58 to .78) and for wives (ranging from .52 to .66).

Stressful life circumstances. To assess external acute stress at each time point, couples completed a version of the Stressful Life Events checklist (Sarason, Johnson, &

Siegel, 1978) designed to assess life events in the previous 6 months. Ninety events were selected, with an emphasis on objective events likely to occur in a young, married population. Events were grouped to represent nine life domains: marriage (e.g., separation from spouse due to work or travel), work (e.g., passed over for promotion at work), school (e.g., school application rejected), family and friends (e.g., death of a friend or family member), finances (e.g., encountered unexpected expenses), health (e.g., had minor physical illness), personal events (e.g., involved in an accident), living conditions (e.g., difficulties with neighbors), and legal (e.g., involved in a lawsuit or legal action). For each event, spouses were first asked to indicate whether the event occurred. If the event occurred, spouses then indicated the impact the event had on their lives on a 7-point scale ranging from *extremely negative* to *extremely positive*. Each event then had to meet two criteria to be included in the final composite score. First, the event could not represent a likely consequence of marital satisfaction or marital distress. Fourteen items were excluded from the final score for this reason (e.g., sexual difficulties). Thus, the measure taps only those stressors external to (i.e., unlikely to be caused by) the marriage. Second, the event had to represent a negative stressor. To identify negative stressors, we examined the average impact rating across husbands and across wives of each event at each wave of data collection. To be included in the final composite score, the event had to be rated on average by both husbands and wives as having a negative impact each time the item was endorsed. A total of 51 events were rated as negative on average and thus were used to calculate the final stress score for each spouse at each time point. The final stress score was computed by adding together the number of these events the spouse reported had occurred. Thus, stress scores could range from 0 to 51.

Data Analysis

Examining hypotheses about the association between negative stress external to the relationship and cognitive processes within the relationship require within-subjects analyses. A within-subjects approach allowed us to examine whether changes in a spouse's stress were associated with changes in his or her relationship cognitions, controlling for spouses' idiosyncratic tendency to view their relationship and their stress more or less favorably. To address hypotheses at the within-subjects level, data were examined with Hierarchical Linear Modeling (HLM) (Bryk & Raudenbush, 1992), implemented with the HLM/2L computer program (Bryk, Raudenbush, & Congdon, 1994). This approach was adopted for several reasons. First, in contrast to other approaches to analyzing multilevel models (e.g., structural equation modeling), HLM provides reliable estimates of within-subject parameters even when sample sizes are relatively small. Second, HLM provides maximally efficient estimates of these parameters by weighting individual estimates according to empirical Bayesian theory. When the within-subject parameter for an individual can be estimated precisely, the final estimate relies heavily on the individual data. When the parameter cannot be estimated precisely (e.g., because of missing data), the final estimate relies more heavily on the mean of the sample. Because the most precise estimates therefore contribute more to the final estimated variance of the sample, variances estimated in this way tend to be more conservative than those obtained through traditional ordinary least squares (OLS) methods.

RESULTS

Descriptive Statistics and Correlations

Table 1 presents descriptive statistics for measures of global satisfaction and external stress. On average, spouses reported high levels of global marital satisfaction and low numbers of acute stressors. Although average stress was low, the severity of many of the stressors measured (i.e., losing a job, being hospitalized) suggest that even a few stressors may have an important impact on spouses' lives. Moreover, there was notable variability in the number of stressors spouses were experiencing at each time point. Husbands' stress tended not to be significantly associated with their global satisfaction cross-sectionally, with correlations ranging from .03 to –.25. Wives' stress, though, was significantly negatively associated with their marital satisfaction at most assessments, with correlations ranging from –.16 to –.53.

Table 2 presents descriptive statistics for measures of specific relationship perceptions and attributions. Not surprisingly, given the newly married sample, spouses on average reported low levels of negative specific relationship perceptions and appeared to make relatively positive attributions for their partners' negative behaviors. Perceptions of relationship problems were significantly negatively associated with global marital satisfaction, with correlations ranging from –.60 to –.83 for husbands and from –.77 to –.86 for wives, such that more negative perceptions were associated with lower satisfaction. Likewise, causality and responsibility attributions were significantly negatively associated with global marital satisfaction, such that a greater tendency to make internal, blaming attributions for a partner's behaviors was associated with lower satisfaction (correlations ranged from –.30 to –.51 for husbands and from –.24 to –.56 for wives across the two subscales). Specific cognitive content was significantly associated with cognitive organization, such that spouses with more negative relationship percep-

TABLE 1: Means of Global Marital Quality and Acute Stress for Husbands and Wives

Spouse	*Time 1*	*Time 2*	*Time 3*	*Time 4*	*Time 5*	*Time 6*	*Time 7*	*Time 8*
Global marital satisfaction (SMD)								
Husbands								
M	96.3	92.0	92.5	92.1	93.5	92.1	91.1	92.8
SD	8.8	14.1	14.8	14.7	13.9	15.5	16.9	12.7
N	82	76	74	67	64	59	60	66
Wives								
M	97.7	94.8	93.3	92.1	93.8	90.0	89.1	92.1
SD	10.7	12.9	16.0	14.7	15.6	19.4	19.6	17.5
N	82	77	73	68	66	61	62	65
Global marital satisfaction (QMI)								
Husbands								
M	42.1	40.3	40.3	40.1	40.8	40.2	38.9	40.2
SD	4.0	6.7	6.6	7.0	6.5	6.5	8.4	6.0
N	82	76	74	67	64	59	60	66
Wives								
M	42.1	40.8	39.8	39.0	40.2	38.3	38.3	39.3
SD	5.3	6.0	7.4	8.6	7.4	9.4	9.1	8.2
N	82	77	73	68	66	61	62	65
Negative acute stress								
Husbands								
M	5.2	3.5	3.4	3.3	3.0	2.8	3.2	3.2
SD	3.5	2.7	3.0	2.4	2.3	2.6	2.7	2.9
Max	17	12	18	10	9	11	10	11
N	82	76	65	56	57	52	53	53
Wives								
M	5.5	4.2	4.2	4.0	3.2	3.9	3.8	3.2
SD	3.6	3.0	3.7	3.4	2.6	2.8	2.3	2.6
Max	18	12	20	14	12	13	9	10
N	82	76	64	63	61	54	55	56

NOTE: SMD = Semantic Differential, QMI = Quality of Marriage Index.

tions tended to make more internal and blaming attributions for their partners' negative behaviors (for husbands, correlations ranged from .34 to .50 and from .33 to .45 for causality and responsibility attributions, respectively; for wives, correlations ranged from .33 to .57 and from .22 to .49 for causality and responsibility attributions, respectively).

Within couples, spouses' stress scores were significantly associated, with correlations ranging from .16 to .44. Spouses' negative relationship perceptions also were significantly associated, with correlations ranging from .37 to .73. Finally, spouses' attributions were significantly associated at half of the eight time points, with correlations ranging from –.03 to .32 and from –.09 to .43 for causality and responsibility attributions, respectively.

In sum, preliminary analyses indicate that all measures performed generally as expected. Nevertheless, these bivariate correlations do not address the within-subjects association between changes in stress and changes in cognitive processes. To examine the hypotheses of the current study, the following sections present results of analyses investigating these associations directly.

Is Stress Associated With Marital Satisfaction?

The first goal of the study was to examine the within-person association between negative stressors and global marital satisfaction throughout the first 4 years of marriage. It was predicted that, over time, increases in external stressors would be associated with corresponding decreases in marital satisfaction. Before addressing this hypothesis, however, we first examined the linear trajectory of both marital satisfaction and stress over time for husbands and for wives using the following equations:

$$\text{Satisfaction} = \beta_{oj} + \beta_{1j}(\text{time}) + \text{error} \quad (1)$$

$$\text{Stress} = \beta_{oj} + \beta_{1j}(\text{time}) + \text{error}. \quad (2)$$

On average, satisfaction and external stress significantly declined over the first years of marriage for both husbands and wives (Table 3). Consequently, to address stress spillover, we examined the within-person association between spouses' stress and their marital satisfaction controlling for time according to the following model:

TABLE 2: Means of Specific Problems and Attribution Scores for Husbands and Wives

Spouse	*Time 1*	*Time 2*	*Time 3*	*Time 4*	*Time 5*	*Time 6*	*Time 7*	*Time 8*
Inventory of specific marital problems								
Husbands								
M	31.3	30.1	29.7	29.8	29.9	30.4	31.3	29.6
SD	16.2	17.1	15.8	17.2	17.3	17.7	20.0	14.0
N	82	75	74	67	64	59	60	66
Wives								
M	29.2	27.8	30.5	29.1	27.4	30.8	31.5	30.1
SD	17.3	15.8	18.7	17.1	14.5	18.1	18.7	19.0
N	82	76	73	66	66	61	62	65
Causal attributions								
Husbands								
M	42.9	46.8	45.9	45.2	46.1	44.5	43.5	44.5
SD	10.9	10.4	10.5	11.4	10.3	13.2	13.8	11.7
N	82	75	64	58	58	53	54	53
Wives								
M	44.9	45.4	46.3	46.2	45.9	47.3	47.9	49.1
SD	9.8	10.2	10.2	10.0	11.3	12.4	11.9	10.7
N	82	76	64	63	62	55	55	55
Responsibility attributions								
Husbands								
M	32.8	36.0	35.3	35.5	35.1	35.3	33.0	35.5
SD	12.1	12.3	13.0	14.7	13.1	15.7	14.9	13.6
N	82	75	64	58	58	53	54	53
Wives								
M	34.9	35.7	38.2	35.9	36.1	36.1	37.9	38.1
SD	14.4	12.7	13.5	14.1	14.4	13.6	16.7	15.8
N	82	76	64	63	62	55	55	55

NOTE: For the Inventory of Specific Marital Problems, higher scores indicate a more negative view of the relationship. Likewise, for each of the attribution subscales, higher scores indicate a more negative cognitive organization.

$$\text{Satisfaction} = \beta_{oj} + \beta_{1j}(\text{time}) + \beta_{2j}(\text{stress}) + \text{error}, \quad (3)$$

where time and stress were centered within persons. In this equation, β_{oj} represents an estimate of the average positivity of a spouse's marital satisfaction. β_{1j} represents the slope of a spouse's satisfaction throughout 4 years of marriage. β_{2j} captures the within-person association between changes in stress and changes in marital satisfaction over time, controlling both for a spouse's tendency to view the relationship as more or less satisfying and for the tendency for satisfaction to decrease linearly over time. A negative β_{2j} would indicate that increases in a spouse's external stressors are associated with decreases in marital satisfaction above and beyond the tendency for satisfaction to decrease simply as a function of time. This equation was estimated for each spouse and the significance of the average β_2 term across spouses was investigated.

Results revealed that, on average, increases in external stressors were significantly associated with decreases in marital satisfaction for wives (Table 4). Thus, extending previous daily diary work, which has demonstrated stress spillover processes over the course of several days, these results provide evidence of stress spillover throughout 4 years of marriage. However, stress spillover was not found for husbands, because changes in stress were, on average, not significantly associated with changes in husbands' marital satisfaction. Given that stress spillover was not found for husbands, it was not possible to examine the mediators of spillover using husbands' data. Thus, all further analyses were conducted using wives' data only.

Is Stress Spillover Associated With Marital Development?

To examine whether wives' experience of stress spillover had long-term consequences for the development of marital quality, we examined the association between wives' stress spillover and the slope of their global satisfaction throughout 4 years of marriage. It was predicted that wives experiencing the most stress spillover also should exhibit the steepest declines in marital satisfaction over time.

To address this hypothesis, each wife's 4-year satisfaction trajectory was estimated at the within-subjects level of the HLM analyses (see Equation 1). To determine the association between the development of marital satisfac-

TABLE 3: Trajectory of Satisfaction, Stress, Specific Perceptions, and Attributions Throughout 4 Years

	β	SE	t	*Effect Size* r
Marital satisfaction				
SMD				
Husbands	–.80	.23	–3.4***	.35
Wives	–1.3	.27	–4.8***	.47
QMI				
Husbands	–.35	.08	–4.4***	.44
Wives	–.50	.09	–5.4***	.51
Acute stress				
Husbands	–.15	.04	–3.8***	.39
Wives	–.15	.03	–3.9***	.40
Specific perceptions				
Husbands	.09	.30	.30	.03
Wives	.64	.18	3.5***	.36
Attributions				
Causality				
Husbands	.05	.15	.32	.04
Wives	.43	.12	3.6***	.37
Responsibility				
Husbands	.23	.18	1.2	.13
Wives	.39	.18	2.2***	.24

NOTE: SMD = Semantic Differential, QMI = Quality of Marriage Index.
***$p < .001$.

TABLE 4: Within-Person Associations Between External Stress and Global Marital Satisfaction

	β	SE	t	*Effect Size* r
SMD (*df* = 81)				
Husbands	.05	.15	.32	.04
Wives	–.42	.15	–2.8**	.30
QMI (*df* = 81)				
Husbands	–.004	.07	–.06	.01
Wives	–.22	.07	–3.0**	.32

NOTE: SMD = Semantic Differential, QMI = Quality of Marriage Index.
**$p < .01$.

tion and stress spillover, the following equations were estimated at the between-subjects level of the analysis:

$$\text{Initial Satisfaction} = \gamma_{10} + \gamma_{11}(\text{Stress Spillover}) + \text{error} \quad (4)$$

$$\text{Satisfaction Slope} = \gamma_{20} + \gamma_{21}(\text{Stress Spillover}) + \text{error}. \quad (5)$$

In Equation 4, γ_{11} captures the association between initial marital satisfaction and wives' susceptibility to stress spillover (i.e., the strength of the association between changes in stress and changes in marital satisfaction over time). In Equation 5, γ_{21} captures the association between the slope of satisfaction over time and the susceptibility to stress spillover. By estimating these two equations simultaneously, the association between the susceptibility to stress spillover and change in marital satisfaction could be examined while controlling for the association between stress spillover and initial marital satisfaction.

Table 5 shows that wives' susceptibility to stress spillover was significantly associated with initial satisfaction, such that wives experiencing greater levels of stress spillover reported lower levels of marital satisfaction. Controlling for this association, wives' susceptibility to stress spillover also was significantly associated with the slope of satisfaction over time. Wives experiencing greater stress spillover had the greatest declines in marital satisfaction throughout 4 years. Consequently, wives not only experienced stress spillover on average but the experience of stress spillover also seemed to have consequences for marital development over time.

What Are the Mechanisms Underlying Stress Spillover?

The next purpose of the study was to investigate potential mechanisms underlying stress spillover. It was predicted that stress may affect global satisfaction through its effects on the content and the organization of spouses' specific relationship perceptions. That is, stress should provide spouses with more negative perceptions of the relationship as well as hinder spouses' ability to process those specific perceptions in a relationship-enhancing manner.

Do specific relationship perceptions mediate stress spillover? The second goal of these analyses was to examine the role of spouses' cognitive content in the stress spillover process. Wives' specific relationship perceptions were expected to mediate the stress spillover effect such that increases in stress should be associated with the perception of more specific marital problems, resulting in lowered marital satisfaction.

To examine this hypothesis, we followed procedures for testing mediation outlined by Baron and Kenny (1986). First, we examined the association between stress and specific relationship perceptions. To model this association, we first examined the trajectory of wives' specific perceptions over time using the following equation:

$$\text{Specific Perceptions} = \beta_{oj} + \beta_{1j}(\text{time}) + \text{error}. \quad (6)$$

Results revealed a significant tendency for wives to report increases in their specific marital problems throughout the first years of marriage (Table 3). Consequently, the within-person association between stress and specific relationship perceptions was modeled controlling for time according to the following equation:

TABLE 5: Associations Between the Susceptibility to Stress Spillover and the Development of Global Marital Satisfaction for Wives

	γ	SE	t	*Effect Size* r
Initial satisfaction (*df* = 80)				
SMD Wives	52.4	9.3	5.6***	.53
QMI Wives	34.4	5.0	6.9***	.61
Satisfaction slope (*df* = 80)				
SMD Wives	6.8	1.8	3.8***	.39
QMI Wives	4.5	1.0	4.5***	.45

NOTE: SMD = Semantic Differential, QMI = Quality of Marriage Index.
***$p < .001$.

$$\text{Specific Perceptions} = \beta_{oj} + \beta_{1j}(\text{time}) + \beta_{2j}(\text{stress}) + \text{error}, \quad (7)$$

where time and stress were centered within persons. In this equation, β_{oj} represents an estimate of the average negativity of a wife's specific relationship perceptions. β_{1j} represents the slope of a wife's specific perceptions throughout the 4-year period. β_{2j} captures the within-person association between stress and specific relationship perceptions over time for a given wife, controlling both for a wife's tendency to view specific problems more or less negatively and for the tendency for marital problems to increase linearly over time. A positive β_{2j} would indicate that increases in a wife's external stressors are associated with increases in a wife's perceptions of specific problems within the relationship, above and beyond the tendency for marital problems to increase simply as a function of time. This equation was estimated for each wife and the significance of the average β_2 term across wives was investigated. In fact, this association was significant, $\beta_{2j} = .60$, $SE = .16$, $t(81) = 3.7$, $p < .001$, effect size $r = .38$, confirming that changes in wives' stress were associated with changes in their cognitive content.

Next, the association between wives' specific relationship perceptions and their global marital satisfaction was modeled according to the following equation:

$$\text{Satisfaction} = \beta_{oj} + \beta_{1j}(\text{time}) + \beta_{2j}(\text{specific perceptions}) + \text{error}, \quad (8)$$

where time and specific relationship perceptions were within-person centered. In this equation, β_{oj} represents an estimate of the average positivity of a wife's global marital satisfaction. β_{1j} represents the slope of a wife's satisfaction over time. β_{2j} represents the within-person association between perceptions of specific relationship problems and marital satisfaction for a given wife, controlling both for a wife's tendency to view the relationship as more or less satisfying and for the tendency of satisfaction to decrease linearly over time. This association was in fact negative and significant, $\beta_{2j} = -.44$, $SE = .05$, $t(81) = -9.4$, $p < .001$, effect size $r = .72$, for the SMD and $\beta_{2j} = -.20$, $SE = .02$, $t(81) = -9.3$, $p < .001$, effect size $r = .72$, for the QMI, suggesting that increases in specific marital problems are associated with decreased global satisfaction.

Finally, to test for mediation, the following equation was modeled:

$$\text{Satisfaction} = \beta_{oj} + \beta_{1j}(\text{time}) + \beta_{2j}(\text{specific perceptions}) + \beta_{3j}(\text{stress}) + \text{error}, \quad (9)$$

where time, specific perceptions, and stress were centered within persons. The results in Table 6 demonstrate that increases in the negativity of wives' specific relationship perceptions remained significantly associated with decreases in marital satisfaction in a model that includes stress. However, when controlling for this association, wives' stress was no longer significantly associated with their marital satisfaction. Consequently, wives' specific relationship perceptions seemed to mediate the stress spillover process.

Do attributions mediate stress spillover? The third goal of these analyses was to examine whether increases in wives' external stressors also would be associated with a more negative cognitive organization, independent of changes in cognitive content. Specifically, it was predicted that increases in wives' stress would be associated with a greater tendency to make maladaptive attributions for a partner's specific negative behaviors, independent of the negativity of wives' specific perceptions. To examine this hypothesis, we first examined the trajectory of wives' attributions over time using the following equations:

$$\text{Causal Attributions} = \beta_{oj} + \beta_{1j}(\text{time}) + \text{error} \quad (10)$$

$$\text{Responsibility Attributions} = \beta_{oj} + \beta_{1j}(\text{time}) + \text{error}. \quad (11)$$

Results indicated that wives' tendency to make internal causal attributions for their husbands' behavioral transgressions tended to increase significantly over time. Likewise, wives tended to view their husbands as increasingly responsible for their behavioral transgressions over time (Table 3). Thus, the within-person associations between stress and attributions were modeled controlling for time and specific perceptions, according to the following equation:

TABLE 6: Specific Perceptions as a Mediator of Stress Spillover

	β	SE	t	*Effect Size* r
Within-person association between perceptions and satisfaction				
SMD (*df* = 81)				
Wives	–.45	.05	–8.4***	.68
QMI (*df* = 81)				
Wives	–.20	.02	–9.0***	.71
Within-person association between stress and satisfaction[a]				
SMD (*df* = 81)				
Wives	–.01	.15	.08	.01
QMI (*df* = 81)				
Wives	–.01	.05	.23	.03

NOTE: SMD = Semantic Differential, QMI = Quality of Marriage Index.
a. Compare to Table 4.
***$p < .001$.

$$\text{Attributions} = \beta_{oj} + \beta_{1j}(\text{time}) + \beta_{2j}(\text{specific perceptions}) + \beta_{3j}(\text{stress}) + \text{error}, \quad (12)$$

where time, specific perceptions, and stress were centered within persons. In this equation, β_{oj} represents an estimate of the average negativity of a wife's causality or responsibility attributions. β_{1j} represents the slope of a wife's attributions over time. β_{2j} represents the within-person association between specific relationship perceptions and attributions. In other words, β_{2j} captures the association between changes in cognitive content and changes in cognitive organization. β_{3j} represents the within-person association between stress and attributions, controlling for a wife's tendency to make more or less adaptive attributions, the tendency for the negativity of attributions to increase over time, and the association between attributions and specific perceptions. A positive β_{3j} would indicate that increases in a wife's negative external stressors are associated with an increased tendency to make maladaptive attributions for a partner's behaviors, independent of changes in her cognitive content.

Results indicated no significant association between wives' causality attributions and their stress, $\beta_{3j} = .08$, $SE = .12$, $t(81) = .72$, $p = .47$, effect size $r = .08$. However, increases in wives' stress were significantly associated with a stronger tendency to blame the partner for negative behaviors, $\beta_{3j} = .32$, $SE = .15$, $t(81) = 2.1$, $p = .04$, effect size $r = .23$. Thus, external stress was associated with the nature of wives' responsibility attributions, controlling for wives' specific relationship perceptions.

To examine whether wives' responsibility attributions mediated stress spillover, we then examined whether wives' attributions were associated with their marital satisfaction, independent of their cognitive content, according to the following model:

$$\text{Satisfaction} = \beta_{oj} + \beta_{1j}(\text{time}) + \beta_{2j}(\text{specific perceptions}) + \beta_{3j}(\text{responsibility attributions}) + \text{error}, \quad (13)$$

where time, specific perceptions, and responsibility attributions were centered within persons. In this equation, β_{oj} represents an estimate of the average positivity of a wife's global marital satisfaction. β_{1j} represents the slope of a wife's satisfaction over time. β_{2j} represents the within-person association between specific relationship perceptions and global marital satisfaction. β_{3j} represents the within-person association between responsibility attributions and marital satisfaction, controlling for a wife's tendency to view the relationship as more or less satisfying, for the tendency for satisfaction to decrease linearly over time, and for the association between specific perceptions and marital satisfaction. This association was in fact significant, $\beta_{3j} = –.08$, $SE = .03$, $t(81) = –2.6$, $p = .01$, effect size $r = .28$ for the SMD and $\beta_{3j} = –.04$, $SE = .02$, $t(81) = –2.8$, $p = .005$, effect size $r = .30$ for the QMI, suggesting that increases in the negativity of wives' responsibility attributions were associated with decreased marital satisfaction, controlling for wives' perceptions of specific problems in the relationship.

Finally, to test for mediation, the following equation was modeled:

$$\text{Satisfaction} = \beta_{oj} + \beta_{1j}(\text{time}) + \beta_{2j}(\text{responsibility attributions}) + \beta_{3j}(\text{stress}) + \text{error}, \quad (14)$$

where time, responsibility attributions, and stress were centered within persons. Given that responsibility attributions were associated with satisfaction and with stress independent of specific perceptions, and that previous results indicated that wives' specific perceptions mediated the stress spillover process, specific perceptions were not included in this equation. Results revealed that increases in the tendency to perceive a partner as responsible for negative behaviors remained significantly associated with decreases in marital satisfaction (Table 7). However, the association between wives' stress and their marital satisfaction was weakened when including responsibility attributions in the model. Wives' responsibility attributions, then, seemed to partially mediate the stress spillover effect.

TABLE 7: Responsibility Attributions as a Mediator of Stress Spillover

	β	SE	t	*Effect Size* r
Within-person association between responsibility attributions and satisfaction				
SMD (*df* = 81)				
Wives	–.20	.05	–4.1***	.41
QMI (*df* = 81)				
Wives	–.08	.02	–4.0***	.41
Within-person association between stress and satisfaction[a]				
SMD (*df* = 81)				
Wives	–.25	.13	1.9*	.21
QMI (*df* = 81)				
Wives	–.16	.07	2.3*	.25

NOTE: SMD = Semantic Differential, QMI = Quality of Marriage Index.
a. Compare to Table 4.
*$p < .05$. ***$p < .001$.

DISCUSSION

Summary of Results

One challenge to maintaining a marriage involves navigating the events external to the relationship that may disrupt functioning within the relationship. Understanding relationship development may therefore require understanding the broader context in which the relationship is embedded. In fact, stressful circumstances frequently are associated with lowered relationship evaluations, a phenomenon known as stress spillover (Tesser & Beach, 1998). Extending prior work demonstrating these effects over the course of several days, the current study found evidence for stress spillover throughout 4 years of marriage. Within-subjects analyses revealed that when wives, but not husbands, were experiencing higher than average levels of stress, they tended to report lower levels of marital satisfaction. Moreover, the experience of stress spillover seemed to have important consequences for the development of marital quality. Wives who were more reactive to external stress (i.e., experienced higher levels of stress spillover) also demonstrated the steepest declines in marital satisfaction throughout 4 years. Thus, external stressors may not only immediately affect relationship evaluations but also contribute to the course of marital well-being over time.

The central goal of the study, then, was to investigate the potential mechanisms though which negative stressors may affect judgments of global satisfaction. As predicted, changes in wives' stress were associated with changes in their perceptions of the relationship, such that as wives' external stress increased, they also tended to perceive more specific problems within the relationship. Moreover, wives' specific perceptions mediated the stress spillover effect, supporting the idea that one way that external stress may lead to lowered satisfaction is by increasing the negativity of spouses' cognitive content.

Independent of the effects on specific perceptions, increases in wives' stress also were associated with a less relationship-enhancing cognitive organization. For wives, increases in stress were associated with an increased tendency to blame partners for their behavioral transgressions, even when controlling for changes in the general negativity of wives' specific relationship perceptions. That is, stress was associated with the nature of wives' responsibility attributions, independent of wives' cognitive content. The current study thus offers additional perspective on prior between-subjects research suggesting that cognitive organization may buffer individuals from the negative effects of stress (Showers & Kling, 1996) by demonstrating how, at the within-subjects level, spouses' positive cognitive organizations also may break down in the face of stress. Moreover, wives' responsibility attributions also mediated the stress spillover effect, suggesting that stress may lead to lowered satisfaction by hindering spouses' ability to separate negative specific relationship perceptions from their global relationship satisfaction. Overall, results support a model suggesting that external stress may affect marital satisfaction through two independent routes: first, by giving rise to negative perceptions within the relationship, and second, by limiting the ability to process those perceptions in a relationship-enhancing manner.

The pattern of results obtained for responsibility attributions did not replicate when causality attributions were examined, a finding consistent with prior research on attributions in marriage (Bradbury & Fincham, 1992; McNulty & Karney, 2001). One possible explanation for this difference is that judgments of responsibility more clearly represent an organizational process than do judgments of causality. The causal attribution subscale asked spouses about the locus, stability, and globality of the cause of negative partner behaviors, whereas the responsibility subscale asked spouses to make judgments of intention, motive, and blame. Thus, viewing one's partner as the cause of a negative behavior may represent a perception (e.g., my partner is always late), whereas viewing one's partner as responsible for the behavior represents the spouse's attempt to either link or separate that perception from the global partner evaluation (e.g., it is not my partner's fault that he or she is always late). This idea is consistent with the pattern of correlations found in the study. Namely, causality attributions tended to be more highly correlated with specific relationship perceptions than were responsibility attributions. Thus,

when controlling for specific perceptions, it makes sense that causality attributions were not independently associated with stress.

Why was stress spillover observed in wives but not in husbands? One possible explanation may involve the types of stressors that husbands and wives were experiencing. All of the results presented were based on spouses' total stress across the nine life domains assessed by the acute stress measure. However, examination of the amount of stress spouses were experiencing within each domain revealed that at five of the eight time points, husbands were reporting significantly less (or marginally significantly less) work stress than were their wives. Given that work stress is a particularly important predictor of family stress (Higgins, Duxbury, & Irving, 1992) and that men often feel less conflict between their roles at work and their roles at home than do women (Moen & Yu, 2000), the finding that husbands may be experiencing less work stress than wives may partially account for the nonsignificant stress spillover effects found for husbands.

A second, perhaps related explanation may involve gender differences in the level of support spouses receive from their partners during times of stress. In a study of daily work stress and marital behaviors, Repetti (1989) found that social support moderated the association between stress and relationship functioning, such that spousal support facilitated the partner's adaptive coping with stress. Thus, receiving support from a partner may buffer the relationship from the effects of external stress. However, husbands and wives may not provide their partners with the same level of support during stressful times. Bolger and colleagues (1989) found that when husbands experience a difficult day at work, wives respond by increasing their own workload at home. Husbands, on the other hand, do not offer this same support to their wives. If, during stressful times, wives support their husbands more than husbands support their wives, this suggests that whereas husbands' evaluations of the marriage may not be hurt by stress, wives' marital evaluations should suffer.

Strengths and Limitations of the Study

Our confidence in the results of this study is enhanced by a number of strengths in its methodology and design. Foremost among these was the use of within-subjects analyses to examine the associations between stress and relationship cognitions. Within-subjects analyses allowed for the estimation of the association between changes in stress and changes in relationship cognitions, controlling for spouses' stable tendencies to view their stress and their relationship in a particular manner. Second, when examining the role of cognitive content and cognitive organization in stress spillover, the HLM approach allowed for the estimation of the association between stress and cognitive organization, controlling for the influence of cognitive content, ensuring that these parameters were not confounded. Third, in contrast to prior research that has relied almost exclusively on short-term diary data, this study used longitudinal data that allowed us to examine stress and relationship cognitions throughout 4 years of marriage. Fourth, also in contrast to much prior research that has addressed samples varying widely in marital duration, the analyses reported here examine data from a relatively homogeneous sample of couples, reducing the likelihood that the effects observed here result from uncontrolled differences in marital duration. Moreover, the use of a fairly homogeneous sample provided a more conservative test of our hypotheses.

Despite these strengths, several factors nevertheless limit interpretations of the current findings. First, all of the data reported were correlational. This article suggests that spouses' stress should lead to changes in their relationship evaluations. However, these data cannot rule out the alternative perspective that the nature of spouses' marriages may lead to changes in the amount of external stress they experience. Nevertheless, this interpretation seems less likely for two reasons. First, all of the events listed on the acute stress measure were chosen to represent stresses that are not likely to be a consequence of marital satisfaction. For instance, whereas being hospitalized or the death of a family member may affect spouses' satisfaction, the reverse is less likely to be true. Second, the majority of stressful events represented concrete, objective events. Thus, troubles in the marriage are unlikely to lead spouses to simply perceive more external stress in their lives. In other words, having a bad marriage is unlikely to lead spouses to perceive that they were fired from their job or that their school application was rejected if these events did not actually occur.

A second limitation of the study is the use of self-report stress measures, which allow for the possibility that a third variable may account for the findings. However, as mentioned, the use of within-subjects analyses allowed us to partial out spouses' stable tendencies to view their stress and their relationship in a particular manner. Moreover, rather than relying on spouses' idiosyncratic subjective ratings of the negativity of the stressful events, final stress scores were based simply on whether the spouse reported that the event had occurred. Together, these factors limit the possibility that third variables, such as general negative affectivity, influenced the results. Nevertheless, future research may want to examine stress spillover using objective stress measures, such as interviewer ratings, to further clarify the directional link between stress and relationship processes.

Although also an important strength, a third limitation involves the use of a relatively homogeneous sample of satisfied couples. Thus, generalizations to other samples should be made with caution. For instance, for less satisfied couples, who may not have the same motivation to perceive the relationship positively, stress may have an even stronger effect on relationship cognitions. However, the fact that stress was significantly associated with spouses' relationship cognitions even in this conservative sample of happy couples not only serves to enhance our confidence in these findings but also attests to the fact that even among the happiest of couples, external stress may strain relationship well-being.

Directions for Future Research

The current article argues that external stressors should have negative effects on cognitive processes within the marriage. However, theories of stress recently have shifted away from an emphasis on the harmful effects of stress toward a focus on the potential of stress to actually enhance well-being. A good marriage may provide a source of comfort when external circumstances are difficult, such that spouses experiencing external stress may more fully appreciate the warmth and stability of the marriage (Coyne & DeLongis, 1986). Moreover, stressful life events can provide opportunities for growth by promoting new coping skills or mobilizing previously untapped personal and social resources (Holahan & Moos, 1990). Thus, an important avenue for future research is to address what distinguishes couples who experience stress spillover from those who may experience greater marital satisfaction when faced with external difficulties.

One promising answer to this question may be the overall quality of spouses' lives. Spouses who enjoy an overall positive quality of life tend to be less affected by external acute stressors than spouses who are faced with a number of chronic life stressors, such as living in poverty or coping with a long-term illness (Caspi, Bolger, & Eckenrode, 1987). Perhaps spouses with low chronic stress not only experience less stress spillover but also are able to rely on the marriage as a safe haven from the experience of acute stress. Several personality qualities also may influence the vulnerability to stress spillover. In the current study, neither neuroticism nor depression, two variables frequently associated with less satisfying marriages, was associated with spouses' experience of stress spillover. However, other personality factors may affect whether the marriage is strengthened or weakened under conditions of stress. For instance, spouses with secure attachments may be less likely than anxiously attached spouses to view the relationship negatively under stress. In addition, for spouses higher in trait self-complexity, or who hold a greater number of differentiated self-aspects, stress in one domain may be less likely to spill over to affect spouses' thoughts about the marriage (Linville, 1987). Finally, successfully coping with stress early in the marriage may serve to bolster spouses' ability to prevent stress spillover in the future. Individuals who behave adaptively under stressful conditions have shown an increase in resources, such as improved family support and reduced family conflict, 1 year later (Holahan & Moos, 1990). Thus, successful coping may lead to improved marital functioning during future stressful periods.

CONCLUSIONS

Historically, research on relationship maintenance and deterioration has focused on the effects of intrapersonal factors, such as relationship cognitions, or interpersonal factors, such as communication, on relationship outcomes. What this perspective overlooks, however, is that the context of the relationship can affect these factors to influence relationship quality. The current study draws attention to the importance of contextual influences for relationship functioning and suggests that to have a complete understanding of the processes contributing to relationship well-being, researchers and therapists must address the broader circumstances within which those processes take place.

NOTES

1. To confirm that negative stressors play a larger role in marital quality than positive stressors, we also examined the within-person association between changes in positive stress and changes in marital satisfaction. Positive stress was not associated with satisfaction for either spouse.

2. Omitting couples who divorced from the analyses did not change any of the results reported, suggesting that divorced couples were not driving the effects.

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