

Bidirectional Associations Between Newlyweds' Marital Satisfaction and Marital Problems over Time

JUSTIN A. LAVNER*
BENJAMIN R. KARNEY†
HANNAH C. WILLIAMSON†
THOMAS N. BRADBURY†

Prevailing views of marital functioning generally adopt the view that marital problems predict decreases in marital satisfaction, but alternative theoretical perspectives raise the possibility that lowered satisfaction can also predict increases in problems. The current study sought to integrate and compare these perspectives by examining the bidirectional cross-lagged associations between newlyweds' reports of their marital satisfaction and marital problems over the first 4 years of marriage. Using annual assessments from 483 heterosexual newlywed couples, we find evidence for problem-to-satisfaction linkages as well as satisfaction-to-problem linkages. Satisfaction was a stronger predictor of marital problems early in marriage but not as time passed; by Year 4 only problem-to-satisfaction linkages remained significant. These findings are consistent with the idea that couples with more problems go on to report lower levels of satisfaction and couples with lower levels of satisfaction go on to report more marital problems. This dynamic interplay between global judgments about relationship satisfaction and ongoing specific relationship difficulties highlights the value of examining bidirectional effects to better understand marital functioning over time.

Keywords: Newlywed Couples; Marriage; Marital Satisfaction; Marital Problems; Longitudinal

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For many couples, the early years of marriage are characterized by significant change. Despite optimistic beginnings, newlyweds on average experience declines in satisfaction across the first years of marriage (Kurdek, 1998) and their risk of marital dissolution is high compared to more-established couples (Kreider & Ellis, 2011). Theoretical and empirical approaches to understanding these trends have generally focused on predicting change in marital satisfaction over time. For example, Karney and Bradbury's (1995) vulnerability-stress-adaptation (VSA) model identifies broad classes of independent variables

*Department of Psychology, University of Georgia, Athens, GA.

†Department of Psychology, University of California, Los Angeles, Los Angeles, CA.

Correspondence concerning this article should be addressed to Justin A. Lavner, Department of Psychology, University of Georgia, Psychology Building, Athens, GA 30602. E-mail: lavner@uga.edu.

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that account for changes in marital satisfaction. Other models such as the emergent distress model (Huston, Caughlin, Houts, Smith, & George, 2001) share this emphasis, highlighting specific processes such as increases in marital conflict (negativity, relationship problems, disagreements; e.g., Stanley, Markman, & Whitton, 2002).

These approaches have led to a nuanced understanding of the trajectory of marital satisfaction, but they have their limitations. Most notably, current models present a unidirectional account of change across the newlywed years, describing how a given independent variable or set of independent variables may give rise to changes in satisfaction (the dependent variable). Yet marital satisfaction may operate as an independent variable as well. The VSA model acknowledges this possibility directly, suggesting that “judgments about marital quality are expected to either diminish or enhance couples’ capabilities to engage in effective marital problem solving, to provide emotional support for each other, and to adapt to stressful events” (p. 24). To date, however, the pathway from satisfaction to future difficulties has been vastly understudied. This paper aims to address this gap and provide a more complete understanding of marital functioning during the newlywed years by examining bidirectional associations between newlyweds’ reports of their marital problems and marital satisfaction over the first 4 years of marriage.

Satisfaction as a Dependent Variable: Marital Problems to Marital Satisfaction

Theoretical approaches to understanding marriage have long suggested that difficulties between partners can erode their initially positive evaluations of the relationship (Jacobson & Margolin, 1979; Stuart, 1969; Thibaut & Kelley, 1959). More recent work builds on these ideas to argue that judgments about relationship quality are organized hierarchically, such that spouses’ global evaluations about how satisfied they are in their marriage (e.g., “my relationship is one in which I feel loved and valued”) are based in part on their evaluations of specific relationship components, either positive or negative (e.g., “we disagree on what to do during our free time”) (Karney, 2015; also see John, Hampson, & Goldberg, 1991; Neff & Karney, 2005).

Several studies offer empirical support for these ideas. Cross-sectionally, specific relationship problems and global relationship satisfaction are highly correlated among cohabiting and married individuals (Frye, 2011). Daily diary designs indicate that fluctuations in spouses’ daily ratings of specific problems are highly associated with fluctuations in their ratings of satisfaction with the marriage as a whole, such that spouses report lower levels of global satisfaction on days in which they experience more negative events (i.e., have more problems; McNulty, O’Mara, & Karney, 2008). Longitudinally, interviewer ratings of the quality of five specific marital domains (emotional closeness/intimacy, sexual intimacy/sensuality, interspousal support, decision-making/relational control, and communication/conflict management) among newlyweds predict changes in self-reported marital satisfaction over time, such that lower initial quality in specific areas is associated with steeper declines in satisfaction (Lawrence et al., 2008). Recognizing the implications of marital problems for marital satisfaction, preventive and therapeutic interventions have thus sought to help couples decrease specific negative aspects of the relationship, theorizing that doing so will improve overall satisfaction (Epstein & Baucom, 2002; Markman, Stanley, & Blumberg, 2010).

Satisfaction as an Independent Variable: Marital Satisfaction to Marital Problems

Although marital research has focused primarily on characterizing how specific problems may drive future evaluations of global satisfaction, other theoretical perspectives suggest that global satisfaction could drive future perceptions of specific problems. Most notably, social

learning theory highlights reciprocal influences between individuals and their environment, such that “the environment is partly of a person’s own making” (Bandura, 1978, p. 345). Hammen’s (1991) stress generation model applied this perspective to depression, arguing that depressed individuals shape their environment in a way that generates more interpersonal stress, which in turn causes them to be more depressed. Empirical support for the stress generation model of depression now comes from a range of studies among clinical and community samples of adults, children, and adolescents (Hammen, 2006). Within the marital context, there is evidence for a bidirectional association between depressive symptoms and interpersonal stress (Davila, Bradbury, Cohan, & Tochluk, 1997), and evidence that relationship functioning (e.g., communication, relationship satisfaction) moderates the association between depressive symptoms and life stressors (Trombello, Schoebi, & Bradbury, 2011). Importantly, these patterns are not specific solely to depressive individuals—Hammen (2006) notes that vulnerable individuals are more likely to generate stress even in the absence of depression due to other factors (e.g., circumstances, enduring traits, or behaviors)—suggesting that these patterns may apply more broadly as well.

The stress generation model offers useful parallels to understanding the association between marital satisfaction and marital problems. This perspective suggests that spouses’ marital satisfaction (their marital functioning) is not just a reflection of their marital problems (their marital stressors), as is commonly assumed, but may also be a direct generator of those problems. That is, spouses who feel unhappy with their marriage may be more likely to engage in a variety of cognitive and behavioral processes that create more problems in their marriage. As a result, spouses lower in satisfaction would have higher levels of marital problems in the cross-section and—extending the stress generation model—subsequently report higher levels of marital problems.

The satisfaction-to-problem linkages described here have yet to be tested longitudinally, but the general idea that satisfaction can shape couples’ experiences in their relationships has a long history in the marital literature. Most prominently, Weiss’s (1980, 1984) concept of sentiment override is based on the idea that spouses interpret specific behaviors from their partners in a manner consistent with their current level of satisfaction, such that more satisfied spouses view their partners’ specific behaviors more positively, and more dissatisfied spouses view their partners’ specific behaviors more negatively (Hawkins, Carrère, & Gottman, 2002; Robinson & Price, 1980). The marital attribution literature similarly finds that satisfied spouses interpret their spouses’ specific behaviors in more favorable ways, making stable and internal attributions for their partners’ positive behaviors (thus enhancing their partner) and temporary and external attributions for their partners’ negative behaviors (thus excusing their partner), whereas dissatisfied partners exhibit an opposite pattern (Fincham & O’Leary, 1983; Jacobson, McDonald, Follette, & Berley, 1985; see Bradbury & Fincham, 1990, for review). These formulations dovetail with the stress generation model in suggesting that couples’ global satisfaction can play a powerful role in shaping couples’ specific experiences in their relationships over time.

The Current Study: Bidirectional Associations between Marital Satisfaction and Marital Problems

The current study seeks to integrate and compare these two perspectives on the longitudinal association between marital satisfaction and marital problems. To do so, we use data from 483 heterosexual newlywed couples assessed annually over the first 4 years of marriage to examine the bidirectional cross-lagged associations between marital satisfaction and marital problems. Simultaneously examining problems-to-satisfaction and satisfaction-to-problems will allow us to determine which pathways operate in newlywed

marriage and to compare the relative strength of the pathways over time. The newlywed years are an ideal period to study these associations, as they are a time of significant risk and change for many couples (Kreider & Ellis, 2011).

The models reviewed above provide two sets of basic predictions: (1) higher levels of marital problems at one time point should predict subsequent declines in marital satisfaction by the next time point, consistent with behavioral models, and (2) lower levels of marital satisfaction at one time point should predict subsequent increases in marital problems by the next time point, consistent with the stress generation model. An integrated conceptual model depicting these pathways is shown in Figure 1. This integrated model allows for the possibility that bidirectional associations between problems-to-satisfaction and satisfaction-to-problems may exist, such that spouses with more problems experience decreases in satisfaction, which in turn makes them more likely to experience increases in problems, and so on.

Outlining these two effects raises important questions about their relative magnitudes, and particularly about whether the strength of the two effects shifts over time. Prior models of intimate relationships provide little guidance for hypotheses on this point, but we can speculate on the basis of prior work (Huston et al., 2001) that spouses' satisfaction may be an especially strong predictor of changes in their problems early in marriage. Over time, however, as spouses gain more experience with specific difficulties in their relationships (e.g., disagreements about household management continue), they may begin to ascribe more meaning to these specific problems, attributing them to a more global cause (e.g., "my relationship is not as positive as I thought") rather than dismissing them (see Kelley, 1973, for a discussion of covariation and configuration effects). Accordingly, satisfaction-to-problem linkages could be strongest early in marriage whereas problem-to-satisfaction linkages may be stronger as time passes. Alternative predictions are also plausible. For example, partners might be especially attuned to small slights and imbalances in contributions to relationship maintenance early in the relationship, eroding satisfaction; as time passes, reduced levels of satisfaction might increase partners' tendencies to encode minor and inconsequential differences as substantial disagreements. To allow for these possibilities, we examine the robustness of these effects at 1-year intervals (i.e., Year 1–Year 2, Year 2–Year 3, Year 3–Year 4) and compare the relative strength of the satisfaction-to-problem and problem-to-satisfaction effects at each lag.

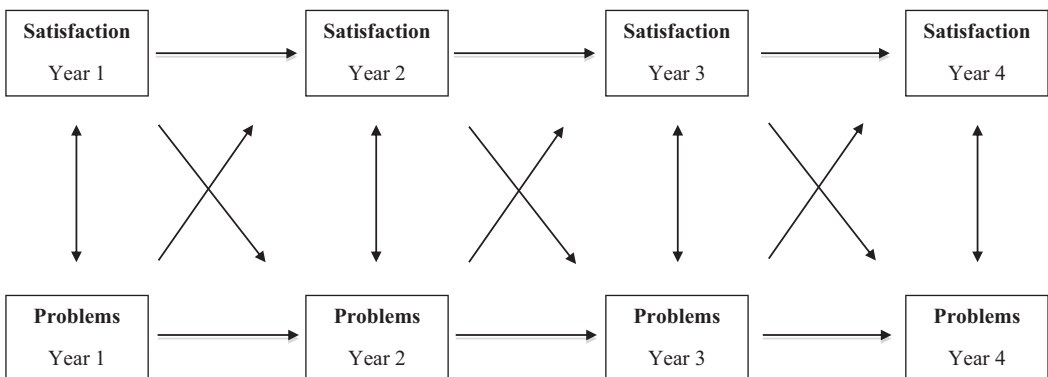


FIGURE 1. Conceptual Model Examining the Direction of Influence between Newlyweds' Marital Satisfaction and Marital Problems over Time.

METHOD

Participants

Participants were 966 spouses from 483 heterosexual newlywed couples in four longitudinal studies.¹ Two of the studies were conducted in a central Florida community surrounding a major state university ($Ns = 82$ couples and 169 couples); the other two studies were conducted in the Los Angeles area ($Ns = 60$ couples and 172 couples). In all studies, couples were recruited using either advertisements in community newspapers and bridal shops or invitations sent to eligible couples who had completed marriage license applications in the county.

All couples were screened for eligibility in a telephone interview. Inclusion criteria were the same in all four studies and included: This was the first marriage for each partner; the couple had been married less than 6 months; each partner was at least 18 years of age and wives were younger than 35 years; each partner spoke English and had completed at least 10 years of education (to ensure comprehension of the questionnaires); and neither partner had children. Eligible participants, after providing oral consent, were scheduled for an initial laboratory session.

Participants were of comparable age across samples, with spouses in their mid-20s and husbands being slightly older than wives on average (Table 1). The majority of participants were Caucasian (>60%). We combined the four samples because all couples met identical selection criteria; the studies used highly similar data collection procedures, measures, and designs; and doing so afforded more power.² A total of 483 couples provided data at Year 1, 445 couples provided data at Year 2, 391 couples provided data at Year 3, and 357 couples provided data at Year 4.

TABLE 1
Demographics by Sample

Spouse	Age M(SD)	Years of Education M(SD)	Yearly Income Median	Caucasian %
Sample 1 ($N = 82$ couples)				
Husband	25.1 (3.3)	16.4 (2.2)	\$5K–\$10K	83
Wife	23.7 (2.8)	16.4 (1.8)	\$5K–\$10K	89
Sample 2 ($N = 169$ couples)				
Husband	25.5 (4.1)	16.5 (2.3)	\$5K–\$10K	94
Wife	23.8 (3.6)	16.3 (2.0)	\$0K–\$5K	86
Sample 3 ($N = 60$ couples)				
Husband	25.4 (3.4)	15.6 (2.2)	\$11K–\$20K	75
Wife	24.0 (2.9)	15.6 (1.6)	\$11K–\$20K	75
Sample 4 ($N = 172$ couples)				
Husband	27.6 (3.9)	15.6 (2.2)	\$21K–\$30K	67
Wife	26.0 (3.4)	16.2 (2.0)	\$11K–\$20K	61

Note. The relatively low income level of participants in Samples 1 and 2 reflects the fact that a large proportion were full-time students at the baseline assessment.

¹We have published other studies using these datasets (Lavner & Bradbury, 2010; Lavner, Bradbury, & Karney, 2012), but this is the first to combine them and to examine the reciprocal associations between marital satisfaction and marital problems in the manner described here.

²Supplemental analyses indicated that sample was not a significant source of dependency in the data (variance accounted for by sample ranged from <.001% to 7%, median = 2%), indicating that it was not necessary to incorporate clustering by sample into our analyses.

Compared to couples providing data, husbands and wives missing data at Year 2 did not differ in their initial level of satisfaction or problems (all $p > .05$). Among couples missing data at Year 3, wives with missing data reported lower levels of initial satisfaction and higher levels of initial problems (both $p < .05$), and husbands with missing data reported lower levels of initial satisfaction ($p < .05$) but not higher levels of initial problems ($p > .05$). At Year 4, wives with missing data initially reported lower levels of satisfaction ($p < .05$) but not higher levels of problems ($p > .05$). Husbands missing data at Year 4 did not differ significantly in their initial satisfaction or problems compared to husbands who provided data ($p > .05$).

Procedure

Couples meeting all eligibility criteria were scheduled to attend a 3-hour laboratory session, which was conducted within the first 6 months of their marriage. Upon arriving at the session, spouses completed a written consent form approved by the local human subjects review board; independently completed demographic questionnaires and questionnaires assessing their marital satisfaction and marital problems; and participated in a variety of tasks beyond the scope of the present study. To allow for meaningful change between assessments, we analyzed spouses' reports of marital satisfaction and marital problems at approximately 12-month intervals for 3 years after the initial assessment (i.e., four annual assessments total). Depending on the sample, participants were paid \$50–\$75 initially and \$25–\$50 at each follow-up.

Measures

Marital satisfaction

Following Fincham and Bradbury's (1987) recommendation that "the construct of marital quality is best limited to overall, evaluative judgments regarding the relationship" (p. 800), we assessed marital satisfaction with the Semantic Differential (SMD; Osgood, Suci, & Tannenbaum, 1957). This measure of marital satisfaction exclusively assesses global evaluations of the relationship, rather than confounding spouses' global sentiments toward the relationship with their ratings of specific problem areas (Fincham & Bradbury, 1987). Doing so thus avoids the issue of overlapping item content and allows for an accurate examination of how satisfaction predicts (and is predicted by) problems.

This measure asks spouses to rate their perceptions of their relationship on 7-point scales between 15 pairs of opposing adjectives (e.g., bad–good; dissatisfied–satisfied; rewarding–disappointing; unpleasant–pleasant; happy–sad; full–empty), yielding scores from 15 to 105 such that higher scores reflect more positive satisfaction with the relationship. Coefficient alpha was $>.90$ for husbands and for wives across all phases of the study. Means and standard deviations for husbands and wives at each wave are shown in Table 2.

Marital problems

Spouses' marital problems were assessed with a modified version of the Marital Problems Inventory (Geiss & O'Leary, 1981). This measure states "All couples experience some difficulties or differences in opinion in their marriage, even if they are only very minor ones. Listed below are a number of issues that might be difficulties in your marriage. For each issue, fill in a bubble to indicate how much it is a source of difficulty or disagreement for you and your spouse." It subsequently lists 19 potential problem areas in a marriage (e.g., trust; communication; showing affection; gender; unrealistic expectations; recreation and leisure time; household management; jealousy; amount of time spent together), rated

TABLE 2

Means, Standard Deviations, and Cross-Sectional Correlations for Marital Satisfaction and Marital Problems over Time

	Year 1 <i>M(SD)</i>	Year 2 <i>M(SD)</i>	Year 3 <i>M(SD)</i>	Year 4 <i>M(SD)</i>
Marital satisfaction				
Husbands	94.92 (10.3)	92.09 (13.4)	91.45 (14.8)	89.63 (16.0)
Wives	96.65 (10.0)	93.65 (14.6)	92.58 (15.1)	90.50 (16.8)
Marital problems				
Husbands	50.89 (22.2)	51.34 (23.9)	50.86 (25.0)	54.43 (28.2)
Wives	47.08 (21.5)	50.33 (25.3)	47.48 (22.7)	51.88 (26.4)
Correlations between satisfaction and problems				
Husbands	-.67**	-.77**	-.81**	-.77**
Wives	-.71**	-.76**	-.76**	-.78**

Note. ** $p < .01$.

on a scale from 1 (*not a problem*) to 11 (*major problem*). The total severity of husbands' marital problems and of wives' marital problems were assessed (separately) by summing their respective ratings of each item (possible range from 19 to 209; $\alpha > .85$ for husbands and wives). Means and standard deviations for husbands and for wives at each wave are shown in Table 2.

As noted in Table 2, marital satisfaction and marital problems shared about 55% of their variance (median cross-sectional $|r| = .76$ for husbands and $.75$ for wives), indicating that spouses high in marital satisfaction also tended to report low levels of marital problems.³

RESULTS

Analytic Plan

Cross-lagged panel analyses were used to examine the reciprocal associations between marital satisfaction and marital problems over time (Figure 1). These analyses are commonly used in longitudinal research to test the direction of influence between two time-varying variables (Cacioppo, Hawkley, & Thisted, 2010; Kim, Conger, Elder, & Lorenz, 2003; Shaffer, Lindhiem, Kolko, & Trentacosta, 2013). This design is ideal here because it allows for the simultaneous examination of the reciprocal influence between two pathways of interest (e.g., early marital problems to later marital satisfaction and early marital satisfaction to later marital problems), while controlling for all potential relationships among the variables (Gershoff, Aber, & Clements, 2009; Martens & Haase, 2006). It is more conservative than a regression analysis because both dependent variables are entered into the model and allowed to correlate, thereby accounting for the multicollinearity between

³We examined the possibility that relationship satisfaction and relationship problems were better accounted for by a single overarching construct using confirmatory factor analyses. We tested a model with all items from both measures loaded onto a single factor, and another where items from the relationship satisfaction measure loaded onto one factor while items from the problem measure loaded onto a different factor. This was done separately for husband and wives at each time point. Chi square difference tests were conducted to compare the 1 and 2 factor models. For each of the eight comparisons the 2 factor model fit significantly better than the 1 factor model (all $p < .001$). These results give us confidence that the theoretical distinction we made between relationship satisfaction and relationship problems is also an empirical distinction that is borne out in the data.

the two dependent variables and leaving less variance in the dependent variables to be explained by the independent variables.

Analyses were conducted in MPlus version 7 (Muthén & Muthén, 2012). This procedure accommodates missing data using full information maximum likelihood, so models were estimated using all available observations. Nonindependence between husbands and wives was accounted for by using the type = complex option, with spouses clustered within couple IDs. Predictor variables included marital satisfaction and marital problems from the preceding time point (e.g., when dependent variables were marital satisfaction and marital problems at Year 2, predictor variables were marital satisfaction and marital problems at Year 1). Because the stability paths are included in the model (e.g., marital satisfaction at Year 1 to marital satisfaction at Year 2), each of the effects should be conceptualized as examining change over time (e.g., problems at Year 1 predict satisfaction at Year 2, controlling for satisfaction at Year 1). All results presented below are standardized model results (STDYX standardization).

Results of the Cross-Lagged Panel Model

Results are shown in Figure 2. There was high rank-order stability in marital satisfaction and in marital problems across all three lags, and the cross-sectional associations between the two variables were significant at each time point. Couples' satisfaction was a significant predictor of changes in marital problems for the first two time lags; the strength of these effects did not differ significantly over time (Wald tests ranged from 0.08 to 0.27, all $p > .10$). Couples' specific marital problems predicted changes in their global marital satisfaction over all three lags; the strength of these effects did not differ significantly over time (Wald tests ranged from 0.06 to 2.08, all $p > .10$). These results did not change controlling for spouses' age, race, or educational level, indicating that demographic factors did not affect the results.

Wald tests comparing the relative strength of the satisfaction-to-problem and problem-to-satisfaction effects at each lag indicated that the satisfaction-to-problem effect was stronger than the problem-to-satisfaction effect at the first lag (Year 1–2; Wald test = 5.91, $df = 1$, $p = .015$). The relative strength of these effects did not differ at the other two lags (Wald tests = 0.87 and 0.16 for the second and third lag respectively).

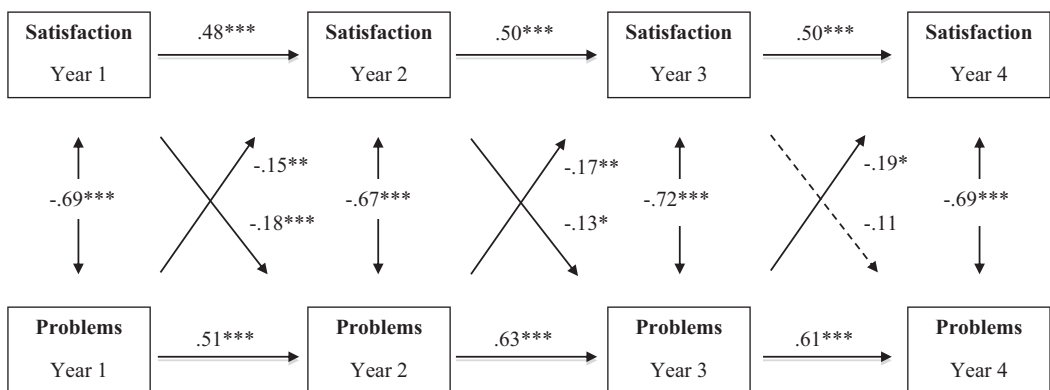


FIGURE 2. Bidirectional Associations Between Marital Satisfaction and Marital Problems over Time.

Notes. All coefficients represent β s. Solid lines show significant paths ($*p < .05$; $**p < .01$; $***p < .001$) and dashed lines show nonsignificant paths. $\chi^2(12) = 101.002$, $p < .001$, RMSEA = .088, CFI = .946, SRMR = .078.

DISCUSSION

Prevailing views of marital functioning assume that spouses' ratings of their marital satisfaction and their marital problems are correlated because spouses base their ratings of global marital satisfaction on their perceptions of the specific difficulties in the relationship. Yet alternative theoretical perspectives raise the possibility that global satisfaction can also give rise to perceptions of specific problems. The current study used data from nearly 500 heterosexual newlywed couples assessed annually over the first 4 years of marriage to examine bidirectional associations between spouses' marital satisfaction and marital problems over time using path analyses. Because these rigorous analyses are especially conservative by controlling for stability effects and for the multicollinearity between these variables, any significant cross-lagged effects are particularly notable.

Building on hierarchical models suggesting that global judgments of relationship satisfaction are based in part on spouses' specific relationship perceptions (Karney, 2015), spouses' level of marital problems predicted changes in marital satisfaction at all three lags. There was also some evidence for the reverse pathway as well: Marital satisfaction was a significant predictor of changes in marital problems at the first two lags. All cross-lagged effects were small in magnitude. These findings that individuals who are less satisfied subsequently experience increases in problems are consistent with the stress generation model (Hammen, 1991, 2006), whereby vulnerable actors inadvertently create or instigate changes in their circumstances which they then struggle to navigate and manage. Of note, the satisfaction-to-problem pathway was significantly stronger than the problem-to-satisfaction pathway at the first lag, highlighting the importance of examining this less-researched pathway.

Before discussing the implications of these results, we note several caveats. First, we examined associations between spouses' reports of their marital satisfaction and marital problems over the first 4 years of marriage. Different patterns of association may emerge later in couples' marital trajectories, calling for further research into these processes throughout the course of marital development. For example, problems may continue to predict satisfaction throughout the first decade of marriage but the satisfaction-to-problem linkages may eventually regain prominence as couples settle into familiar roles and routines and become less affected by the specific difficulties they are experiencing. Examining these associations over a longer period of time would therefore clarify whether the lack of significant satisfaction-to-problem associations by the third lag are a temporary gap or represent a more meaningful shift in the extent to which satisfaction predicts problems. Second, marital satisfaction and marital problems were operationalized as composites of spouses' perceptions of their global satisfaction assessed using the SMD (Osgood et al., 1957) and their total problem severity derived from spouses' self-reports using the Marital Problems Inventory (Geiss & O'Leary, 1981). It will be important to replicate these findings with different measures. Furthermore, third-party ratings of spouses' difficulties (Lawrence et al., 2008) could provide a useful complement to these measures in order to compare the extent to which spouses perceive that problems change to more objective indicators of their difficulties. Third, the cross-lagged associations were examined over 1-year periods. Daily diary designs are needed to examine how these processes unfold on a more micro level. Fourth, although the study used a large, diverse sample of newlywed couples, we caution that all of these couples were heterosexual, in their first marriages, and childless at the time of marriage. Further research is needed among other populations who enter marriage with more varied backgrounds (e.g., same-gender marriages, remarriages, couples having children prior to marriage) in order to determine whether the patterns observed here are characteristic of newlywed marriage in general and to examine whether these patterns differ among demographic groups. Fifth, although

our longitudinal design allows us to examine the predictive nature of these associations, all data are correlational, and thus third variables may be driving the reported effects. For example, it would be valuable for future research to examine whether the effects reported here remain robust controlling for time-varying depressive symptoms. It is also possible that time-invariant third variables will influence the initial lags more than later lags, which could contribute to satisfaction being a stronger predictor of problems at the first lag but not at the subsequent lags. Future research is needed to test these ideas. Sixth, we used cross-lagged panel analyses to examine bidirectional change in satisfaction and problems. The cross-lagged panel model is widely used in the psychological literature and, as we have already noted, this approach has several strengths that make it well-suited for addressing this study's aims. However, there are drawbacks to this approach as well (for discussion, see Hamaker, Kuiper, & Grasman, 2015, and Selig & Preacher, 2009). Future research using statistical models such as the random intercepts cross-lagged panel model that separate within-person and between-person variance would be valuable (Hamaker et al., 2015).

Notwithstanding these limitations, these findings advance theoretical understanding of how relationships change over the newlywed years. These results build on prior work emphasizing how relationship satisfaction changes as a result of conflict and disagreement (Jacobson & Margolin, 1979) by showing that marital problems consistently predicted change in marital satisfaction throughout the first 4 years of marriage. These findings also provide some evidence that marital satisfaction predicts changes in marital problems over the first 3 years of marriage. Together, these findings provide preliminary evidence for a cyclical relationship between satisfaction and problems, at least early in marriage, such that couples with more problems go on to experience greater declines in their satisfaction, which in turn makes them more likely to perceive greater increases in their problems. Thus, consistent with the stress generation model (Hammen, 1991, 2006), individuals who are in distressed relationships go on to experience changes that further contribute to their distress. Conversely, individuals in highly satisfied relationships go on to experience bigger decreases in relationship problems, which in turn lead to higher levels of satisfaction.

Additional research is needed to understand the psychological processes underlying these bidirectional associations, particularly regarding the satisfaction-to-problem pathways. The fact that lower levels of satisfaction can predict future problems is consistent with the stress generation model, but more research is needed to understand exactly how these associations arise. One possibility is that to the extent that lower levels of satisfaction covary with poorer problem-solving communication (Woodin, 2011), these couples may struggle to resolve their disagreements and, left unresolved, problems may escalate. Another possibility, drawing from Weiss's (1984) model of sentiment override and consistent with findings from the marital attribution literature (Bradbury & Fincham, 1990), is that dissatisfied spouses interpret their partners' behaviors more negatively and, in turn, this negative attributional style could lead to more difficulties and disagreements later on. These possibilities are consistent with findings from the broader stress generation literature highlighting the role of maladaptive coping, problem-solving strategies, and negative cognitive styles in the stress generation effect (Liu & Alloy, 2010). Future work examining these types of cognitive and behavioral processes as mediators of the satisfaction-to-problem associations described here would be valuable.

Future research should also consider characteristics that may moderate these associations. For example, couples' problem-solving skills may affect these associations, such that couples with more adaptive problem-solving skills might show weaker linkages between problems and satisfaction than couples with less adaptive problem-solving skills; better managing and containing difficulties may reduce the likelihood of spillover into overall

ratings of relationship quality. Alternatively, stress outside the relationship may strengthen these linkages. High levels of external stress limit couples' self-regulatory capacities (Buck & Neff, 2012), including their ability to separate variability in their specific relationship experiences from their overall levels of global satisfaction on a daily basis (Neff & Karney, 2009). It would be valuable to examine whether spouses high in external stress would be more likely to demonstrate stronger longitudinal associations between satisfaction and problems. This work should also account for the fact that the moderators themselves are likely to vary over time. How couples communicate early in their marriage may be different from how they communicate later on, and the amount of external stressors that couples contend with can ebb and flow. Accordingly, it will be important for these and other moderators to be examined longitudinally so that they too can be considered in a dynamic manner. These more proximal assessments of couples' functioning will allow for a more accurate test of moderation.

More generally, the present examination of the bidirectional associations between marital satisfaction and marital problems over time underscores the need for research on couples to include longitudinal assessments of satisfaction as well as the variables that predict satisfaction. Repeated assessment of marital problems allowed us to examine marital satisfaction as an independent variable and dependent variable simultaneously, thereby providing a more complete picture of the changes that occur during the early years of marriage. Considering these associations over a series of four cross-lagged associations also provided new information about the temporal consistency of these associations, which serves a useful complement to growth curve analyses which typically examine how one variable predicts change in the other over the entire assessment window, or how these variables covary on average. Further work applying these cross-lagged models to different marital domains will allow for a more nuanced examination of how satisfaction both affects and is affected by various factors, ultimately providing a more dynamic understanding of change in marriage.

It will be particularly important for future research to include relationship positives in these types of models. Examining specific positives across multiple domains (as was done here for relationship problems), as well as positive functioning in specific relationship domains such as sexuality and support, will add more clarity to the longitudinal determinants of relationship functioning and to the dynamic process by which satisfaction affects and is affected by various interpersonal domains. For example, recent work indicates bidirectional associations between marital satisfaction and sexual satisfaction, such that higher levels of marital satisfaction predict more positive changes in sexual satisfaction, and higher levels of sexual satisfaction predict more positive changes in marital satisfaction (McNulty, Wenner, & Fisher, 2016). Additional research examining measures of problems, relationship positives, and global satisfaction in the same model would allow for a more nuanced examination of the interplay between these domains.

More generally, these findings raise several practical implications for prevention and intervention. By highlighting how relationship dysfunction is cyclical—couples who are less satisfied go on to have more severe problems, which in turn makes them more likely to be less satisfied—these results underscore the importance of interventions that reduce couples' problems and that also increase couples' satisfaction. A focus on reducing couples' problems is common among behavioral preventive (Halford, 2011; Markman et al., 2010) and therapeutic (Epstein & Baucom, 2002) interventions, and can be achieved through a variety of means. Couples may benefit from learning how to communicate about their problems more effectively, which can lead to more effective problem-solving. Couples may also benefit from a deeper understanding of what their key problems are, where these issues stem from, and how to navigate these difficulties through greater acceptance and tolerance (Jacobson & Christensen, 1996). Our findings also highlight the benefit of

interventions that aim to improve satisfaction directly. Traditional behavioral models of couple therapy adopt this approach through activities focused on increasing couples' positive exchanges early in treatment (Jacobson & Margolin, 1979), and many prevention programs also include this emphasis on increasing couples' positive interactions. For example, the widely used PREP program includes topics such as having fun as a couple (e.g., making time, protecting fun from conflict), enhancing sensuality (e.g., communicating desires, using physical touch), and maintaining friendship (e.g., talking like friends; Markman et al., 2010). Continuing to develop new strategies to help couples maintain or improve their satisfaction may be valuable for preserving relationship quality longer term, above and beyond the benefit of helping couples better manage their difficulties. Doing so will likely yield particular benefits early in marriage, when satisfaction is a stronger predictor of marital problems than marital problems are of satisfaction.

In conclusion, the current study provides evidence for a reciprocal relationship between marital satisfaction and marital problems in which couples with more problems go on to report decreases in satisfaction and couples with lower levels of satisfaction go on to report increases in marital problems. Future research into the factors that moderate these bidirectional associations and the psychological mechanisms that mediate these associations will advance theoretical understandings of changes in marital functioning during the newlywed years.

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