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A Longitudinal Investigation of Stress Spillover in Marriage: Does Spousal Support Adequacy Buffer the Effects?

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Abstract

Stress spillover in marriage was examined within a stress-buffering conceptual framework in a multiwave, longitudinal sample of newlywed husbands and wives ($N = 101$ couples). Spousal support, chronic role strain, and marital satisfaction were assessed 4 times over 3 years and analyzed via actor–partner interdependence model and growth curve analytic techniques. Greater escalation in husbands' role strain over the first 3 years of marriage was associated with steeper declines in their marital satisfaction regardless of the adequacy of spousal support provided by their wives. In contrast, greater escalation in husbands' and wives' role strain was associated with significantly less marital decline for wives, and these links were bolstered when husbands provided wives with more adequate support. The present study is one of the first to explicate the underlying processes through which role strain and spousal support facilitate and mitigate the developmental course of marital satisfaction.

Keywords

marriage; marital; support; stress; couples

Given that almost half of all first marriages end in divorce (U.S. Census Bureau, 2005) and marital distress and dissolution have been linked to poor psychological and physical health (Kiecolt–Glaser & Newton, 2001; Whisman, 2001), increased efforts have been made to understand the factors influencing marital satisfaction and stability. Researchers have offered several theories to explain the factors that impact the developmental course of marriage, and much of this research has been focused on intrapersonal factors (e.g., depression) and/or interpersonal factors (e.g., conflict) as predictors of marital outcomes. Story and Bradbury (2004) noted that although these types of variables do account for changes in marital satisfaction (Karney & Bradbury, 1997), a significant and notable proportion of the variance is still left unaccounted for. They argued that in order to have a more complete understanding of how individual vulnerabilities and dyadic factors influence marital satisfaction, researchers should also take into account the context of a relationship (i.e., factors surrounding couples and their interactions; see Karney, Story, & Bradbury, 2005). Research focusing on the role of context in marriage has revealed that the more distressing elements of the environment—elements contributing to one's level of stress—are associated with negative marital processes and outcomes, a phenomenon often referred to as *stress spillover* (e.g., Neff & Karney, 2004). The purpose of the present study was to expand upon previous stress spillover research by (a) examining this phenomenon within a conceptual framework adapted from a stress-buffering model of individual well-being (S. Cohen & Wills, 1985) and (b) examining spousal support adequacy as a potential moderator of stress spillover in marriage.

Stress spillover has been well documented by researchers investigating a variety of life events, circumstances, and life transitions negatively impacting marriage, including the death of a child (Kamm & Vandenberg, 2001), economic stress (Conger, Rueter, & Edler, 1999), and work-related stress (Repetti, 1989). Stress has been found to impact marriage in several ways; stressors external to marriage have been associated with less satisfying spousal interactions (Repetti, 1989), more negative attributions about spouse behavior (Neff & Karney, 2004), and marital discord (Karney et al., 2005). Although a substantial portion of the research examining stress spillover has been focused on single sources of stress, researchers have recently begun exploring the collective impact of multiple facets of the environment simultaneously in order to attain a more comprehensive understanding of how stress impacts marriage (e.g., Karney et al., 2005).

Researchers examining stress spillover have also made distinctions between acute stressors (i.e., discrete, observable life events with a clear onset and offset such as job loss or death of a loved one; Wheaton, 1997) and chronic stressors (i.e., enduring problems, conflicts, and threats with a gradual onset and continuous course such as role strain or chronic illness; Wheaton, 1997) when examining this phenomenon. Whereas evidence of direct relations between acute stress and marital satisfaction has been inconsistent (Williams, 1995), there is growing and consistent evidence that chronic stress—and role strain in particular—contributes to marital discord (e.g., Karney et al., 2005). Role strain is a form of chronic stress resulting from role occupancy (e.g., parental, occupational; Wheaton, 1997), and research indicates that acute stressors impact individuals primarily through their contribution to greater role strain (Pearlin, Lieberman, Menaghan, & Mullan, 1981). Given the research indicating that role strain has important implications for both individual and marital functioning (e.g., Kiecolt-Glaser & Newton, 2001; Quittner et al., 1998), researchers studying the implications of stress on dyadic functioning have begun to transition from a primary focus on life events to that of role strain resulting from roles external to the marriage (e.g., Karney et al., 2005).

In a recent longitudinal investigation of stress spillover, Karney et al. (2005) examined the association between the average level of role strain assessed over several time points and changes in marital satisfaction over the early years of marriage. Overall level of role strain was associated with steeper declines in one's own marital satisfaction for both husbands and wives. Although examining the average level of role strain aggregated over multiple time points yielded a reliable indicator of average role strain over time, relying on such an assessment may limit our ability to truly understand stress spillover in marriage. Chronic stress is assumed to be a dynamic phenomenon (e.g., Reis & Gable, 2000; Repetti, 1989), and therefore it appears important to assess rates of change in role strain over time. In addition, it would be advantageous to examine both within-spouse and cross-spouse associations between trajectories of role strain and marital satisfaction. Examining the extent to which role strain impacts both the individual experiencing the strain and his or her partner would presumably greatly enhance our understanding of the pervasiveness of stress spillover in dyadic relationships.

A final and arguably fundamental issue to consider when examining stress spillover in marriage is that, just as conceptual models and basic research focused exclusively on intrapersonal or interpersonal factors are insufficient for explicating the developmental course of marriage (e.g., Story & Bradbury, 2004), so too is it restrictive to examine stress and marital satisfaction in isolation from other factors known to contribute to marital discord. Incorporating intrapersonal, interpersonal, and contextual factors into these models and research studies is likely to have important treatment implications as well. Whereas stress is largely uncontrollable (Wheaton, 1997) and enduring vulnerabilities are by nature stable (Karney & Bradbury, 1995), interpersonal factors are more amenable to change. In sum, we call for research examining stress spillover to also take into account interpersonal variables impacting marital satisfaction.

Specifically, we suggest adapting the stress-buffering model of individual well-being (S. Cohen & Wills, 1985) to the study of stress spillover in marriage.

Although the idea that stress contributes to marital dysfunction is a relatively recent focus of research, the notion that stress plays a role in physical and mental health is long-standing and widely accepted. The physiological changes associated with chronic stress have been consistently linked to illness (see Kiecolt-Glaser, McGuire, Robles, & Glaser, 2002, for review). In addition, individual psychopathology researchers concur that environmental stressors interact with genetically predisposed vulnerabilities to bring about symptoms of psychopathology (i.e., a diathesis-stress model; e.g., Hammen, 2005). Consequently, researchers have aimed to identify factors that might protect individuals from the detrimental effects of stress.

Proponents of the stress-buffering model of individual well-being (S. Cohen & McKay, 1984; S. Cohen & Wills, 1985) conceptualize social support as a moderator of the link between stress and health. Specifically, social support is identified as a stress buffer, reducing the harmful effects of stress on mental health (see S. Cohen & Wills, 1985, for review) and physical health (see Kiecolt-Glaser et al., 2002, for review). Given the implications of such a model for understanding factors protecting individuals from the harmful effects of stress, we propose using a similar conceptual model within the context of marriage. Identifying variables that moderate the stress spillover process in marriage will have important implications for explicating this phenomenon and informing clinical efforts to minimize the effects of stress on marriage.

There is growing evidence in the marital literature demonstrating that spousal support enhances marital satisfaction (e.g., Dehle, Larsen, & Landers, 2001; Pasch & Bradbury, 1998), and Cutrona (1996) suggests that one of the mechanisms through which spousal support contributes to marital satisfaction is by preventing stress-related deterioration of the marital relationship. Therefore, examining spousal support within a stress-buffering conceptual framework might clarify how to protect the marital relationship from stress spillover.

Although we are calling for an examination of spousal support in stress spillover research, it is important to note that not all support behaviors are desired by support recipients (Gardner & Cutrona, 2004). Indeed, for some partners, infrequency of certain support behaviors may actually be preferred. Therefore, researchers have begun to examine the role of *spousal support adequacy* (i.e., the degree to which the frequency of support behaviors provided by one's partner matches individual preferences for the frequency of that support), and results indicate that more adequate spousal support is associated with greater marital satisfaction (Dehle et al., 2001). Given that the stress and coping literature suggests that people have unique coping styles or dispositions (e.g., Carver, Scheier, & Weintraub, 1989), it seems imperative that individual differences in support needs be addressed when examining stress spillover. If an individual adapting to changing role strain is not receiving the type of support that matches his or her preferred coping style (or is not receiving enough of that type of support), the result may be dissatisfaction with the marital relationship. For example, the provision of undesired support may lead support recipients to view their partners as insensitive or patronizing (Dehle et al., 2001), such as if support is in the form of unwanted advice giving. Support recipients may also experience feelings of guilt if they do not embrace the undesired support provided by their spouses. Therefore, more adequate support in particular—rather than more support in general—seems likely to buffer the effects of stress spill-over in marriage.

The principal goal of the present study was to adapt the stress-buffering conceptual framework of individual well-being to the study of stress spillover in marriage. Toward that goal, we examined spousal support adequacy as an interpersonal factor moderating the association

between changes in role strain and marital satisfaction over the first 3 years of marriage. This goal was examined in a sample of newlyweds, as newlyweds tend to be at greater risk for marital dissolution than more established couples (Cherlin, 1992), and couples who will eventually divorce are not excluded from the sample (Pasch & Bradbury, 1998). We also incorporated a consideration of intrapersonal contributors to marital distress. Specifically, we controlled for depressive symptoms, given their strong relations to perceptions of support (Maher, Mora, & Leventhal, 2006), stress (Monroe & Simons, 1991), and marital discord (Whisman, 2001).

There were two aims to the present study. The first aim was to expand upon previous stress spillover research indicating that role strain is associated with marital discord; our research involved four waves of data, an actor-partner interdependence model (Kenny, Kashy, & Cook, 2006), and growth curve analyses to investigate within- and cross-spouse associations between husbands' and wives' trajectories of role strain and marital satisfaction. We predicted that changes in role strain would be associated with changes in marital satisfaction for both husbands and wives. Specifically, we expected greater escalation in role strain to be associated with steeper declines in one's own and one's partner's marital satisfaction. The second aim was to examine the potential stress-buffering role of spousal support adequacy in the association between changes in role strain and marital satisfaction. We predicted that, consistent with a stress-buffering model (S. Cohen & Wills, 1985), adequacy of partner support would influence the long-term effects of role strain on marital satisfaction. With regard to within-spouse moderation, we predicted that when spouses received less adequate support from their partners, escalation in role strain would be more strongly associated with decline in marital satisfaction. In contrast, a stress-buffering effect was expected when spouses received more adequate partner support such that escalation in role strain would be less strongly associated with marital decline. We also predicted that support adequacy would serve a stress-buffering role across spouses. For example, when wives received more adequate support from their husbands, husbands' escalations in role strain would be less strongly associated with declines in wives' marital satisfaction. Escalations in stress were expected to limit spouses' abilities to meet the needs of their partners; thus, to the extent that spouses are still able to provide adequate support to their partners despite their own escalating stress, partners' marital satisfaction should not be as negatively impacted (compared with partners whose spouses cannot provide support when under stress themselves).

Method

Participants and Procedure

Participants were recruited through marriage license records in Iowa. Couples in which both spouses were between 18 and 55 years of age were mailed letters explaining the study and inviting them to participate. Interested couples were screened over the telephone to ensure they were married less than 6 months and in their first marriages. More than 350 couples contacted the laboratory, and the first 105 couples who (a) completed the screening procedures, (b) were deemed eligible, and (c) were able to schedule their Time 1 laboratory appointments were included in the sample. Of the 105 couples who participated in the first wave of data collection, 2 couples were dropped from the study. One couple revealed during the Time 1 lab session that it was not the wife's first marriage, and another couple withdrew from the study. Two additional couples were dropped from analyses because of missing data at the item level that did not appear to be random. Therefore, analyses in the present study were conducted with 101 couples. Couples included in the analyses dated an average of 44 months ($SD = 27$) prior to marriage, and 76% of them cohabited premaritally. As of Time 1, average annual joint income was \$30,001–\$40,000. Husbands' average age was 25.82 years ($SD = 3.55$) and modal years of education were 14. Wives' average age was 24.78 years ($SD = 3.67$) and modal years of

education were also 14. Fifteen percent of husbands and wives identified themselves as ethnic minorities (the proportion of non-Caucasian individuals in Iowa is 7%; U.S. Census Bureau). By Time 4 of the study, 35% of the couples were parents. Demographic variables were not significantly correlated with the key variables in this study.

Eligible couples completed questionnaires through the mail four times during the first 3 years of marriage: at 3–6 months after the wedding date (Time 1), at 12–15 months (Time 2), at 21–24 months (Time 3), and at 30–33 months (Time 4). All measures included in the present study were completed by husbands and wives at all four time points. At Time 1, couples also came into the laboratory to complete a series of procedures beyond the scope of the current study. Couples were instructed to complete all measures independently and were provided with separate envelopes in which to seal and mail back their completed questionnaires. Couples were paid \$100 for participation at Time 1 and \$50 per wave of data collection at Times 2–4.

Measures

Chronic Strains Inventory (CSI; Hammen et al., 1987)—A modification of an interview protocol developed by Hammen et al. (1987) was used to assess role strain via a self-report, paper-and-pencil method. This modified version has been widely used in marital research (e.g., Karney et al., 2005). The Chronic Strains Inventory covers 10 life domains, including child-rearing activities, relationships with one's own family, relationships with in-laws, relationships with friends, school, work, being a homemaker, financial status, health, and the marital relationship. Participants are provided with a list of behavioral indicators for each area and asked to choose the rating that best represents their experiences in each area over the past 6 months. For each domain, 9-point Likert scales are provided such that 1 = *absolutely no stress in that domain*, 5 = *some stress in that domain*, and 9 = *extremely high levels of stress in that domain*. For our study, composite scores were obtained by reverse-scoring and averaging the items—excluding the marital relationship domain item—so that high scores corresponded to a high degree of nonmarital role strain. An average score was calculated because not all domains applied to every participant (e.g., school) and therefore were not rated by every participant. Mean scores from each time point were used to generate four-wave trajectories of role strain separately for husbands and wives.

Support in Intimate Relationships Rating Scale (SIRRS; Dehle et al., 2001)—The SIRRS is a self-report measure of perceived spousal support. Anchored in behaviorally specific indicators, it assesses support across a wide range of support behaviors, focuses on support from partners in intimate relationships, and emphasizes the perceived adequacy of the support received. In the Dehle et al. (2001) original version of the SIRRS, actual and preferred rates of support behaviors were recorded over 7 consecutive days. Because the purpose of our study was to investigate associations between support adequacy, role strain, and marital satisfaction over longer intervals (e.g., weeks to months at a time), we modified the instructions so that spouses estimated the actual frequency of 48 specific supportive behaviors provided by their partners over the past month and then indicated a preferred frequency for each behavior (*more, less or the same*). Spousal support adequacy scores were coded such that 0 = *spouse perceived the support as inadequate* (spouse would like more or less of that support) and 1 = *spouse perceived the support as adequate* (spouse would like the same amount of that support). When the SIRRS was used with these modified instructions, the measure demonstrated strong reliability and validity in both dating and marital samples and across both men and women (Barry, Bunde, Lawrence, & Brock, 2007). Scores were summed, and higher scores represented more adequate (perceived) support. Average scores were computed from scores obtained at each of the four time points to attain an overall score of spousal support adequacy for each spouse. Cronbach's coefficient alphas ranged from .94 to .97 for husbands and wives across the four time points.

Quality of Marriage Index (QMI; Norton, 1983)—The QMI is a self-report questionnaire designed to assess the “essential goodness of a relationship.” The measure includes six items (e.g., “we have a good marriage”; “my relationship with my partner makes me happy”). Participants indicate the extent to which they agree or disagree with each item. Cronbach’s alphas ranged from .91 to .97 for husbands and wives over time. Scores were summed at each time point and were used to generate four-wave trajectories of husbands’ and wives’ marital satisfaction.

Beck Depression Inventory (BDI-2; Beck & Steer, 1984)—This inventory is one of the most widely used self-report measures of depressive symptoms. Items measure different symptoms of depression (e.g., sadness, pessimism, and past failure). A 4-point Likert scale is used, and scores can range from 0 to 63, with higher scores indicative of more symptoms. Cronbach’s alphas ranged from .78 to .91 for husbands and wives across time. Average scores were computed from scores obtained at each time point to attain overall scores of depression symptoms.

Results

Means and standard deviations for all variables are reported in Table 1. Husbands and wives did not differ significantly in their levels of role strain or marital satisfaction but did differ significantly in their overall levels of depression, $t(100) = -2.89, p < .01$, and spousal support adequacy, $t(100) = 5.44, p < .005$, with wives reporting significantly more depressive symptoms and less adequate support overall. Correlations between variables are displayed in Table 2. Interspousal correlations were generally small (J. Cohen, Cohen, West, & Aiken, 1983), with two exceptions. Rates of marital satisfaction between spouses were highly correlated, which is consistent with the literature on newlywed couples (e.g., Karney & Bradbury, 1995). In addition, overall support adequacy between spouses was moderately correlated ($r = .36$). Both within-husband and within-wife correlations between key variables ranged from small to medium in size ($r_s = .02-.48$). Therefore, spousal support adequacy, role strain, and marital satisfaction were adequately related yet sufficiently distinct enough to support the use of growth curve analyses with these data. Finally, within-husband and within-wife correlations between the control variable of depression symptoms and each of the key variables were small to medium in size. In sum, bivariate correlations were small enough to consider the key variables as distinct constructs.

Trajectories of Marital Satisfaction Over the Early Years of Marriage

Analyses were conducted with growth curve modeling (GCM) techniques (Raudenbush & Bryk, 2002) and the HLM 6 computer program (Raudenbush, Bryk, & Congdon, 2004). GCM allows for a simultaneous, two-stage process. The first stage (Level 1) estimates a trajectory of change (growth curve) for a variable (i.e., marital satisfaction) described by two parameters: intercept (defined as the over-all level of marital satisfaction in the present study) and slope (the rate of change in marital satisfaction over time). GCM provides tests of whether, on average, intercepts and slopes differ significantly from zero and whether there is variability in parameter estimates across spouses. Effects on each parameter of the trajectory are estimated simultaneously such that effects on one parameter are estimated controlling for effects on other parameters. As recommended by Raudenbush, Brennan, and Barnett (1995), we estimated husbands’ and wives’ trajectories simultaneously in couple-level models (as opposed to nesting spouses within couples). We also estimated within-spouse and cross-spouse paths simultaneously (Kenny et al., 2006). Time was measured in days since the midpoint between Time 1 and Time 4 and divided by 30 so that unit of time was represented in months. Continuous variables were group mean centered at Level 1.

When measured via the Marital Adjustment Test (Locke & Wallace, 1959), prior research has demonstrated a systematic linear decline in marital satisfaction (e.g., Karney et al., 2005); thus, we first tested a linear model of marital satisfaction from the four longitudinal data points in the present study: Y_{ij} (marital satisfaction) = β_{1j} (husband) + β_{2j} (wife) + β_{3j} (husband time) + β_{4j} (wife time) + r_{ij} , where Y_{ij} is marital satisfaction for individual j at time i ; β_{1j} is the intercept of husband j (i.e., the overall level of marital satisfaction); β_{2j} is the intercept of wife j (i.e., the overall level of marital satisfaction); β_{3j} is the rate of linear change in marital satisfaction for husband j over time (i.e., slope); β_{4j} is the rate of linear change in marital satisfaction for wife j over time (i.e., slope); and r_{ij} is the residual variance in repeated measures for individual j , which is assumed to be independent and normally distributed. In GCM, the coefficients can be understood as functionally similar to unstandardized regression coefficients, and they represent the degree of association between two variables. Graphical examinations of mean marital satisfaction scores at each time point in the present sample (as measured via the QMI) suggested that marital satisfaction changed in a curvilinear fashion, with declines early on followed by relative stability (see QMI means in Table 1); thus, we also tested a curvilinear (i.e., quadratic) model of marital satisfaction. The quadratic terms were created by squaring the time parameters already computed. In these Level 1 equations, each parameter includes a constant and a unique error term where each Level 1 coefficient is modeled as a function of the grand mean (e.g., γ_{10}) and error (e.g., μ_{1j}). To evaluate the relative fit of the two models (linear vs. quadratic), we examined parameter estimates (e.g., t tests of slope parameters, χ^2 tests of variance) from each model; the quadratic model provided more meaningful estimates than did the linear model. We also compared the deviance statistics of the two models to determine whether the models provided an equally adequate fit to the data. Because the linear model is nested in the quadratic model, their fit can be compared by subtracting the deviance statistics of the nested model (the linear model) from those of the larger model (the quadratic model). The deviance statistics were significantly different, $\chi^2(1) = 47.31, p < .001$; thus, the model with fewer parameter constraints (quadratic) can be said to provide a better description of the data.

As can be seen by examining the means in Table 1, husbands' and wives' marital satisfaction declined over the first 15 months of marriage and then remained relatively stable through the 3rd year of marriage. In all subsequent analyses, greater curvilinear change (slope estimates with larger coefficients) is indicative of a more favorable course of marital satisfaction—more stabilization as opposed to continued decline through the 2nd and 3rd years of marriage. In contrast, less curvilinear change (slope estimates with smaller coefficients) indicates a less favorable course of marital satisfaction—continued linear decline rather than a leveling off of marital satisfaction levels in the 2nd year of marriage.

Aim 1: Are Changes in Role Strain Associated With Changes in Marital Satisfaction?

Existing conceptualizations of chronic stress (Wheaton, 1997) suggest that role strain demonstrates a slight linear increase over time; thus, we tested a linear model of role strain from the four longitudinal data points in the present study. Although on average, husbands' role strain, $t(100) = 0.52, ns$, and wives' role strain, $t(100) = 0.47, ns$, were relatively stable across time, role strain demonstrated a trend toward linear escalation over time. This trend is consistent with the stress and coping literature, which suggests that chronic stress gradually increases and develops over time (Wheaton, 1997). In sum, in the present study changes in role strain are conceptualized as escalations in role strain over time.

The first aim was to investigate associations between husbands' and wives' trajectories of role strain and marital satisfaction. To address Aim 1, we entered role strain as a time-varying variable at Level 1 to estimate the covariation between changes in role strain and changes in marital satisfaction over time. Given the increase in the number of parameters relative to our

sample size, and given that we were not interested in the associations between role strain slopes and marital satisfaction intercepts, we fixed the error terms for β_{1j} and β_{2j} (husbands' and wives' intercepts). As presented in Table 3, rates of change in husbands' role strain were significantly associated with rates of change in their own marital satisfaction, $t(100) = -2.18$, $p < .05$, and with rates of change in their wives' marital satisfaction, $t(100) = 3.63$, $p < .005$. In contrast, rates of change in wives' role strain were not associated with rates of change in either their own marital satisfaction, $t(100) = 0.15$, *ns*, or their husbands' marital satisfaction, $t(100) = 1.04$, *ns*. To the extent that husbands' role strain increased over time, husbands experienced steeper declines in marital satisfaction and, surprisingly, wives experienced significantly less decline in marital satisfaction.

To test for significant gender differences in within-spouse paths, we compared the effect sizes for husbands' and wives' paths. Johnson (2007) modified the Z test equation by Meng, Rosenthal, and Rubin (1992; p. 173) to test whether two dependent correlation coefficients without a common variable are significantly different (i.e., $H_0: r_{yx} = r_{wz}$), allowing the comparison of correlations of subjects nested within a dyad. The effect size of the relation between change in husbands' role strain and marital satisfaction (effect size $r = .22$) was marginally significantly greater than the effect size of the relation between change in wives' role strain and marital satisfaction (effect size $r = .02$), $Z = 1.48$, $p = .06$. Next we compared the effects sizes for cross-spouse paths. The effect size of the relation between changes in husbands' role strain and wives' marital satisfaction (effect size $r = .34$) was significantly greater than the effect size of the relation between wives' strain and husbands' marital satisfaction (effect size $r = .10$), $Z = -1.95$, $p = .03$.

Aim 2: Does Spousal Support Adequacy Help Explain Stress Spillover in Marriage?

To examine whether the associations between changes in role strain and changes in marital satisfaction varied as a function of support adequacy, we specified the same Level 1 model that we used to address Aim 1. In addition, support adequacy was entered into each of the Level 2 equations. Results are presented in the lower half of Table 3. First, we present the results of our within-spouse paths. As noted above, to the extent that husbands' role strain increased over time, husbands also experienced steeper marital decline over time. Does this link vary as a function of the adequacy of the support that husbands receive? Analyses demonstrated that the (perceived) adequacy of the support husbands received from their wives does not moderate this link, $t(98) = -0.04$, *ns*. Associations between husbands' role strain and marital decline do not vary as a function of the adequacy of the support their wives provide.

We also previously reported that rates of change in wives' role strain were not significantly associated with rates of change in their own marital satisfaction. However, this association was moderated by the adequacy of the support that wives received, $t(98) = 3.15$, $p < .005$. As expected, to the extent that the support that wives received from their husbands was relatively inadequate, increases in wives' role strain were more strongly associated with their own marital decline. In contrast, to the extent that wives reported receiving more adequate support from their husbands, changes in wives' role strain were significantly less strongly associated with their own marital decline. Support adequacy was a significantly stronger moderator for wives (effect size $r = .30$) than for husbands (effect size $r = .00$), $Z = -2.26$, $p = .01$.

With regard to cross-spouse paths, to the extent that husbands' role strain increased over time, wives experienced less marital decline over time. Does this link vary as a function of the adequacy of support wives receive from their husbands? Wives' perceptions of support adequacy did significantly moderate the relation between changes in husbands' role strain and wives' marital satisfaction, $t(98) = 2.54$, $p < .05$. The positive association between husbands' role strain and wives' marital satisfaction was significantly stronger for wives receiving more adequate support compared with wives receiving less adequate support. Specifically, receiving

more adequate support from one's husband strengthens the association between escalation in the husband's role strain and more positive curvilinear change in the wife's marital satisfaction. Next, as noted in the analyses for Aim 1, we did not find a significant association between wives' role strain and husbands' marital satisfaction. Moderation analyses indicated that husbands' support adequacy did not moderate the relation between changes in wives' role strain and husbands' marital satisfaction, $t(84) = -1.26$, *ns*. Finally, the effect size representing moderation of the link between husbands' role strain and wives' marital satisfaction (effect size $r = .25$) was not significantly greater than the effect size representing moderation of the link between wives' role strain and husbands' marital satisfaction (effect size $r = .13$), $Z = -0.99$, $p = .16$.

Discussion

Researchers have begun to recognize the context of a marriage as contributing to the development of relationship discord and dissolution (Karney et al., 2005; Neff & Karney, 2004; Story & Bradbury, 2004) and have found that external stress negatively impacts marital interactions, attributions, and satisfaction (e.g., Karney et al., 2005). The first aim of the present study was to expand upon previous stress spillover research by investigating within- and cross-spouse associations between trajectories of role strain and marital satisfaction. Consistent with our predictions, husbands who experienced greater escalation in role strain over the first 3 years of marriage demonstrated steeper declines in marital satisfaction compared with husbands experiencing more stable role strain over time. Contrary to our expectations, relative escalation of wives' role strain did not account for changes in their own marital satisfaction. Therefore, although Karney et al. (2005) found that a higher average level of role strain across the early years of marriage is associated with marital decline for both husbands and wives, when examining rates of change in role strain during a similar stage of marriage, notable gender differences emerge. This demonstrates the importance of utilizing various methodologies (e.g., assessing overall level of stress, assessing overall change in stress over time, examining distinct patterns of stress over time) to ensure a comprehensive understanding of stress spillover in marriage.

When examining cross-spouse associations between trajectories of role strain and marital satisfaction, we found that escalation in wives' role strain was not associated with changes in husbands' marital satisfaction; however, escalation in husbands' role strain was associated with changes in wives' marital satisfaction. Moreover, contrary to our expectations and the traditional conceptualization of stress spillover as detrimental to marriage, when husbands experienced greater escalation in role strain over the first 3 years of marriage, wives demonstrated a plateau effect in marital satisfaction during the 2nd year of marriage (i.e., marital satisfaction stabilized), whereas when husbands experienced less escalation in role strain, wives demonstrated greater linear decline in their marital satisfaction. Thus, our analyses of the main effects would seem to suggest that increases in husbands' role strain might be beneficial for wives' marital satisfaction. We return to this surprising finding in a moment.

The second aim was to examine the potential stress-buffering role of spousal support adequacy in the association between changes in role strain and marital satisfaction. Contrary to our expectations, support adequacy does not appear to be an important factor in stress spillover for husbands; however, it does appear to serve this function for wives. When wives experience greater escalation in role strain over the early years of marriage, they are more likely to experience a favorable course of marital satisfaction if they are also receiving more adequate support from their husbands. Recall that, for Aim 1, changes in wives' role strain were not associated with changes in their own marital satisfaction. We can now modify this conclusion and state that escalation in wives' role strain is associated with change in their own marital satisfaction under conditions of adequate spousal support. Further, the cross-spouse association

identified in Aim 1—that escalation in husbands' role strain is associated with a more favorable course of marital satisfaction for wives—is stronger when husbands are providing more adequate support to their wives. Taken together, the results of Aims 1 and 2 indicate that (a) escalation in husbands' role strain is associated with a less favorable course of marital satisfaction for husbands, and (b) escalation in both husbands' and wives' role strain is actually associated with a more favorable course of marital satisfaction for wives under conditions of adequate support provision by husbands.

Not surprisingly, we found that husbands experienced greater marital decline when they also experienced greater escalations in role strain. Researchers have proposed that unstable (i.e., fluctuations in) chronic stress over time forces individuals to adapt to their unpredictable environments (Aldwin, 1994). Therefore, escalations in husbands' role strain may result in husbands modifying their existing coping strategies, necessitating that wives play novel roles in their husbands' coping efforts. It is possible that without adequate communication between spouses, wives may not act in a way that is consistent with their husbands' new coping strategies, and consequently husbands may become dissatisfied with their marriages. Also, in the present study, escalations in husbands' role strain were associated with marital decline regardless of whether or not husbands received adequate (perceived) support from their wives; however, the examination of additional relational processes (e.g., poor conflict management skills) might explain the detrimental effects of escalating stress on marital satisfaction experienced by husbands. Furthermore, consideration of other dyadic processes might reveal factors protecting husbands from marital discord resulting from escalating role strain (e.g., a sense of mutual respect between spouses, the quality of sexual relations, emotional intimacy).

Although we were surprised to find that escalations in husbands' and wives' role strain were associated with more favorable courses of marital satisfaction for wives, the results of our moderation analyses help explicate the unexpected nature of these findings. First, the association between husbands' escalating role strain and wives' marital satisfaction was stronger when husbands provided their wives with more adequate support. It is possible that wives appreciate their husbands' ability to provide adequate support despite husbands' simultaneous efforts to adapt to their own escalating role strain, and as a result wives are more satisfied with their marriages. Second, although we did not find a significant association between wives' escalating role strain and wives' marital satisfaction in Aim 1, our moderation analyses revealed that escalations in wives' role strain were more strongly associated with positive marital satisfaction trajectories (i.e., less marital decline) when their husbands provided more adequate support. Perhaps wives recognize and appreciate that their husbands are providing them with more adequate support in times of need (i.e., when wives are adjusting to changes in their own role strain), and therefore wives are more satisfied with their marriages.

Although examining support adequacy as a moderator of the link between trajectories of role strain and marital satisfaction helped to clarify the unanticipated finding that escalations in husbands' and wives' role strain actually have positive implications for wives' marital satisfaction, future examinations of the specific nature of spousal support could further explain this counterintuitive finding. For example, researchers might examine wives' support provision and husbands' support solicitation skills via behavioral observations of interaction tasks as moderators of the link between changes in husbands' role strain and wives' marital satisfaction. Existing research indicates that wives' individual physical well-being (i.e., health status) appears to be enhanced to the extent that they can provide support in intimate relationships compared with when they receive support (Vaananen, Buunk, Kivimaki, Pentti, & Vahtera, 2005). It is possible that wives may also benefit with regard to their marital satisfaction if given the opportunity to provide support to their husbands, such as when husbands are adapting to escalating stress and are soliciting support. Therefore, we call for researchers to employ

observational data to examine support solicitation and provision as possible moderators of this link.

There were several positive features in the present study. First, the aims were explored within an established conceptual framework by adapting the stress-buffering model of individual well-being to the study of marital satisfaction. Second, role strain was assessed in numerous social roles resulting in a more comprehensive measure of role strain. Third, using a measure of support adequacy rather than relying on a measure of support frequency allowed us to account for individual differences in support needs. Fourth, given that depression is associated with social support, stress, and marital discord, we controlled for depression in our moderation analyses. Fifth, all variables were assessed at four time points and over 3 years, which allowed us to examine stress spillover as a dynamic phenomenon and to move beyond cross-sectional associations to an examination of temporal associations between the key variables. Sixth, hypotheses were analyzed with an actor-partner interdependence model and growth curve analytic techniques, which allowed us to address within-subject and between-subjects questions, within-spouse and cross-spouse paths, and interdependence between husbands and wives. Seventh, the use of a newlywed sample ensured that couples whose marriages will end in divorce were not excluded from the sample. It seems likely that divorced couples might have different (e.g., stronger) associations between role strain and marital decline or have steeper marital decline overall. By examining couples from the beginning of marriage, we were not hindered by the restricted range that might be found in a sample of established couples.

There were also limitations to the present study. First, although the size of the sample was comparable to that of many recent published studies of newlywed couples, replication of these findings with a larger sample is recommended. Second, the sample consisted primarily of Caucasian, fairly well educated couples, and all couples were married and heterosexual; such demographic factors limit the generalizability of the findings. Third, given that the study was not experimental in nature, causal conclusions cannot be drawn. Fourth, we relied solely on the use of self-report measures. Finally, couples were generally satisfied with their marriages and experienced relatively low levels of role strain. It seems likely that the findings might differ in a sample of distressed, treatment-seeking couples.

The present study demonstrates that the nature of stress spillover in marriage is far more complex than previously presented. Our longitudinal examination of role strain and marital satisfaction allowed for an examination of the dynamic nature of stress spillover in marriage. Future researchers might use longitudinal methods to examine other facets of stress spillover contributing to marital discord, such as differential patterns of role strain over time and their unique contributions to marital satisfaction. Also, our examination of cross-spouse associations between role strain and marital satisfaction further revealed the complex nature of stress spillover. Relying solely on within-spouse analyses in the current study would have supported the traditional conceptualization of stress spillover as a detrimental force in marriage; however, results of cross-spouse analyses revealed that escalations of role strain may actually have positive implications for marriage. In addition, acknowledging that role strain experienced by one spouse has the potential to influence both the spouse and his or her partner broadens our understanding of the pervasiveness of stress spillover.

From a theoretical standpoint, we call for researchers to broaden their conceptualization of stress spillover in marriage and examine stress spillover within a stress-buffering framework. Results of the present study revealed that when examining support adequacy as a moderator of stress spillover, certain stress spillover effects emerged that might have otherwise been overlooked (i.e., escalation of wives' role strain has positive implications for wives' marital satisfaction under certain conditions). Furthermore, results indicated that the (perceived) provision of adequate support by husbands appears to bolster the positive effects of escalation

in both spouses' role strain on wives' marital satisfaction. Therefore, it appears vital that, upon entry into the marital relationship, husbands be skilled in providing support that meets the unique support needs of their wives, and for wives to recognize when husbands are providing adequate support. Identification of other dyadic processes playing a role in stress spillover might further our understanding of the developmental course of newlywed marriage—particularly during times of stress, change, or transition—by revealing factors playing both a stress-buffering role (i.e., reducing the negative effects of role strain) or stress-bolstering role (i.e., enhancing the positive effects of role strain) in marriage.

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References

- Aldwin, CM. Stress, coping, and development. New York: Guilford; 1994.
- Barry RA, Bunde M, Lawrence E, Brock R. Factor structure of the Support in Intimate Relationships Rating Scale (SIRRS). 2007Manuscript submitted for publication
- Beck AT, Steer RA. Internal consistencies of the original and revised Beck Depression Inventory. *Journal of Clinical Psychology* 1984;40:1365–1367. [PubMed: 6511949]
- Carver CS, Scheier MF, Weintraub JK. Assessing coping strategies: A theoretically based approach. *Journal of Personality and Social Psychology* 1989;56:267–283. [PubMed: 2926629]
- Cherlin, AJ. Marriage, divorce, remarriage. 2. Boston: Harvard University Press; 1992.
- Cohen, J.; Cohen, P.; West, SG.; Aiken, LS. Applied multiple regression/correlation analysis for the behavioral sciences. 2. Hillsdale, NJ: Erlbaum; 1983.
- Cohen, S.; McKay, G. Social support, stress, and the buffering hypothesis: A theoretical analysis. In: Baum, A.; Singer, JE.; Taylor, SE., editors. *Handbook of psychology and health*. 4. Hillsdale, NJ: Erlbaum; 1984. p. 253-267.
- Cohen S, Wills T. Stress, social support and the buffering hypothesis. *Psychological Bulletin* 1985;98:310–357. [PubMed: 3901065]
- Conger RD, Rueter MA, Elder GH Jr. Couple resilience to economic pressure. *Journal of Personality and Social Psychology* 1999;76:54–71. [PubMed: 9972553]
- Cutrona, C. Social support in couples: Marriage as a resource in times of stress. Thousand Oaks, CA: Sage; 1996.
- Dehle C, Larsen D, Landers JE. Social support in marriage. *American Journal of Family Therapy* 2001;29:307–324.
- Gardner, KA.; Cutrona, CE. Social support communication in families. In: Vangelisti, AL., editor. *Handbook of family communication*. Mahwah, NJ: Erlbaum; 2004. p. 495-512.
- Hammen C. Stress and depression. *Annual Review of Clinical Psychology* 2005;1:293–319.
- Hammen C, Adrien C, Gordon D, Burge D, Jaenicke C, Hiroto D. Children of depressed mothers: Maternal strain and symptom predictors of dysfunction. *Journal of Personality and Social Psychology* 1987;80:237–254.
- Johnson, MD. Unpublished manuscript. State University of New York; Binghamton: 2007. A method for comparing the magnitude of correlation coefficients of subjects nested in dyad: An example using husbands and wives..

- Kamm S, Vandenberg B. Grief communication, grief reactions and marital satisfaction in bereaved parents. *Death Studies* 2001;25:569–582. [PubMed: 11813706]
- Karney BR, Bradbury TN. The longitudinal course of marital quality and stability: A review of theory, methods, and research. *Psychological Bulletin* 1995;118:3–34. [PubMed: 7644604]
- Karney BR, Bradbury TN. Neuroticism, marital interaction, and the trajectory of marital satisfaction. *Journal of Personality and Social Psychology* 1997;72:1075–1092. [PubMed: 9150586]
- Karney, BR.; Story, LB.; Bradbury, TN. Chronic and acute stress among newlyweds. In: Revenson, TA.; Kayser, K.; Bodenmann, G., editors. *Couples coping with stress*. Washington, DC: American Psychological Association; 2005. p. 13-32.
- Kenny, DA.; Kashy, DA.; Cook, WL. *Dyadic data analysis*. New York: Guilford; 2006.
- Kiecolt–Glaser JK, McGuire L, Robles TF, Glaser R. Psychoneuroimmunology: Psychological influences on immune function and health. *Journal of Consulting and Clinical Psychology* 2002;70:537–547. [PubMed: 12090368]
- Kiecolt–Glaser J, Newton T. Marriage and health: His and hers. *Psychological Bulletin* 2001;127:472–503. [PubMed: 11439708]
- Locke HJ, Wallace KM. Short marital adjustment predictions tests: Their reliability and validity. *Marriage and Family Living* 1959;21:251–255.
- Maher MJ, Mora PA, Leventhal H. Depression as a predictor of perceived social support and demand: A componential approach using a prospective sample of older adults. *Emotion* 2006;6:450–458. [PubMed: 16938086]
- Meng XL, Rosenthal R, Rubin DB. Comparing correlated correlation coefficients. *Psychological Bulletin* 1992;111:172–175.
- Monroe SM, Simons AD. Diathesis-stress theories in the context of life stress research: Implications for the depressive disorders. *Psychological Bulletin* 1991;110:406–425. [PubMed: 1758917]
- Neff L, Karney B. How does context affect intimate relationships? Linking external stress and cognitive processes within marriage. *Personality and Social Psychology Bulletin* 2004;30:134–148. [PubMed: 15030629]
- Norton R. Measuring marital quality: A critical look at the dependent variable. *Journal of Marriage and Family* 1983;45:141–151.
- Pasch L, Bradbury TN. Social support, conflict, and the development of marital dysfunction. *Journal of Consulting and Clinical Psychology* 1998;66:219–230. [PubMed: 9583325]
- Pearlin L, Lieberman MA, Menaghan EG, Mullan JT. The stress process. *Journal of Health and Social Behavior* 1981;22:337–356. [PubMed: 7320473]
- Quittner AL, Opipari LC, Espelage DL, Carter B, Eid N, Eigen H. Role strain in couples with and without a child with a chronic illness: Associations with marital satisfaction, intimacy, and daily mood. *Health Psychology* 1998;17:112–124. [PubMed: 9548702]
- Raudenbush SW, Brennan RT, Barnett RC. A multivariate hierarchical model for studying psychological change within married couples. *Journal of Family Psychology* 1995;9:161–174.
- Raudenbush, SW.; Bryk, AS. *Hierarchical linear models: Applications and data analysis methods*. 2. Newbury Park, CA: Sage; 2002.
- Raudenbush, SW.; Bryk, AS.; Congdon, RT. *Hierarchical linear and nonlinear modeling*. Chicago: Scientific Software International; 2004.
- Reis, HT.; Gable, SL. Event-sampling and other methods for studying everyday experience. In: Reis, HT.; Judd, CM., editors. *Handbook of research methods in social and personality psychology*. New York: Cambridge University Press; 2000. p. 190-222.
- Repetti RL. Effects of daily workload on subsequent behaviors during marital interaction: The roles of social withdrawal and spouse support. *Journal of Personality and Social Psychology* 1989;57:651–659. [PubMed: 2795436]
- Story LB, Bradbury TN. Understanding marriage and stress: Essential questions and challenges. *Clinical Psychology Review* 2004;23:1139–1162. [PubMed: 14729426]
- U.S. Census Bureau. Number, timing, and duration of marriages and divorces: 2001 (Publication P70–97). Washington, DC: U.S. Department of Commerce; 2005.

- Vaananen A, Buunk BP, Kivimaki M, Pentti J, Vahtera J. When is it better to give than to receive: Long-term health effects of perceived reciprocity in support exchange. *Journal of Personality and Social Psychology* 2005;89:176–193. [PubMed: 16162052]
- Wheaton, B. The nature of chronic stress. In: Gottlieb, BH., editor. *Coping with chronic stress*. New York: Plenum Press; 1997. p. 43-73.
- Whisman, MA. The association between depression and marital dissatisfaction. In: Beach, SRH., editor. *Marital and family processes in depression: A scientific foundation for clinical practice*. Washington, DC: American Psychological Association; 2001. p. 3-24.
- Williams LM. Associations of stressful events and marital quality. *Psychological Reports* 1995;76:1115–1122. [PubMed: 7480475]

Table 1
Descriptive Statistics for Control, Predictor, and Outcome Variables for Husbands and Wives

Variable	Husbands		Wives		Paired <i>t</i> (<i>df</i>)
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Symptoms of depression (BDI-2), possible range (0–63)					
Overall Level (Time 1–Time 4)	6.43	5.12	8.56	6.09	-2.89 (100)**
Time 1 (3–6 mo.)	6.05	5.10	7.53	6.03	
Time 2 (12–15 mo.)	6.17	6.34	8.72	8.73	
Time 3 (21–24 mo.)	6.76	6.59	9.29	9.13	
Time 4 (30–33 mo.)	6.41	7.06	8.81	7.64	
Support adequacy (SIRRS), possible range (0–48)					
Overall Level (Time 1–Time 4)	39.07	9.72	32.48	11.58	5.44 (100)*****
Time 1 (3–6 mo.)	39.49	9.84	33.36	12.68	
Time 2 (12–15 mo.)	38.86	12.28	30.08	13.43	
Time 3 (21–24 mo.)	39.00	11.71	32.38	12.73	
Time 4 (30–33 mo.)	40.48	10.21	33.59	13.02	
Role strain (CSI), possible range (1–9)					
Time 1 (3–6 mo.)	2.80	0.65	2.79	0.56	0.24 (99)
Time 2 (12–15 mo.)	2.80	0.65	2.85	0.66	-0.40 (79)
Time 3 (21–24 mo.)	2.80	0.64	2.79	0.66	0.20 (82)
Time 4 (30–33 mo.)	2.79	0.66	2.84	0.52	-0.69 (83)
Marital satisfaction (QMI), possible range (6–45)					
Time 1 (3–6 mo.)	41.17	4.79	40.64	4.87	1.30 (100)
Time 2 (12–15 mo.)	38.68	7.68	38.85	7.80	-0.21 (80)
Time 3 (21–24 mo.)	39.07	6.85	39.01	6.60	0.08 (82)
Time 4 (30–33 mo.)	39.57	5.98	39.90	6.09	0.60 (82)

Note. BDI-2 = Beck Depression Inventory; SIRRS = Support in Intimate Relationships Rating Scale; CSI = Chronic Strains Inventory; QMI = Quality of Marriage Index.

**

p < .01.

p < .001.

Table 2
Within- and Cross-Spouse Bivariate Correlations Between Control, Predictor, and Outcome Variables

Wives	Husbands									
	1	2	3	4	5	6	7	8	9	10
1. <i>M</i> depression	.14 ****	-.45 *****	.31 ***	.25 *	.48 *****	.38 *****	-.40 *****	-.31 ***	-.23 **	-.35 ****
2. <i>M</i> support adequacy	-.43 ****	.36 *****	-.15 **	-.08 **	-.14 ****	-.19 ****	.33 ****	.40 ****	.44 ****	.37 ****
3. T1 role strain	.21 *	-.03 **	.06 ****	.44 ****	.63 ****	.47 ****	-.33 ***	-.16 **	-.14 **	-.16 **
4. T2 role strain	.20 **	-.03 **	.58 ****	.10 **	.63 ****	.54 ****	-.24 **	-.18 **	-.12 **	-.16 **
5. T3 role strain	.35 ****	-.19 **	.46 ****	.34 ****	.28 **	.65 ****	-.29 **	-.32 ***	-.30 **	-.24 *
6. T4 role strain	.35 ****	-.02 **	.49 ****	.59 ****	.38 ****	.28 **	-.26 **	-.14 **	-.29 **	-.24 *
7. T1 marital satisfaction	-.28 **	.36 ****	-.20 **	-.10 **	-.34 ****	-.10 **	.65 ****	.39 ****	.44 ****	.49 ****
8. T2 marital satisfaction	-.34 **	.35 ****	-.30 **	-.16 **	-.27 **	-.09 **	.52 ****	.53 ****	.54 ****	.37 ****
9. T3 marital satisfaction	-.42 ****	.43 ****	-.15 **	-.08 **	-.24 **	-.19 **	.42 ****	.64 ****	.53 ****	.51 ****
10. T4 marital satisfaction	-.41 ****	.42 ****	-.13 **	-.10 **	-.32 **	-.07 **	.36 ****	.55 ****	.55 ****	.64 ****

Note. *N* = 101 couples. Husbands' data are above the diagonal. Wives' data are below the diagonal. Interspousal correlations are in bold along the diagonal. T = time.

* *p* < .05.

** *p* < .01.

*** *p* < .005.

**** *p* < .001.

Adequacy of Support Moderating the Link Between Role Strain and Marital Satisfaction: Main and Moderating Effects

Table 3

Variable	Own role strain → Own satisfaction			Partner role strain → Own satisfaction			Effect size <i>r</i>
	Coefficient	SE	<i>f</i> ²	Coefficient	SE	<i>f</i> ²	
Husband	-1.21	0.56	-2.18*	0.60	0.58	1.04	.10
Wife	0.10	0.70	0.15	2.09	0.57	3.63***	.34
Husband's role strain	-0.91	0.59	-1.54	0.85	0.60	1.42	.14
Support adequacy ^b	0.00	0.02	30.04	-0.02	0.02	-1.26	.13
Depression symptoms	-0.04	0.02	-1.91	-0.07	0.02	-3.06***	.30
Wife's role strain	0.10	0.77	0.13	1.70	0.59	2.89**	.28
Support adequacy ^c	0.03	0.01	3.15***	0.03	0.01	2.54*	.25
Depression symptoms	0.03	0.03	1.10	0.02	0.02	0.97	.10

Note. Effect size $r = \sqrt{[t^2/(t^2 + df)]}$. Significant findings relevant to specific hypotheses are in bold.

^a Aim 1 $df = 100$; Aim 2 $df = 98$.

^b Adequacy of support provided by wives to husbands (as a moderator).

^c Adequacy of support provided by husbands to wives (as a moderator).

* $p < .05$.

** $p < .01$.

*** $p < .005$.