Journal of Marriage and Family

Grace L. Jackson, Jennifer L. Krull, Thomas N. Bradbury, and Benjamin R. Karney
University of California Los Angeles

Household Income and Trajectories of Marital Satisfaction in Early Marriage

*Are the marriages of lower income couples less satisfying than the marriages of more affluent couples? To address this question, we compared trajectories of marital satisfaction among couples with a wide range of household incomes. The marital satisfaction of 862 Black, White, and Latino newlywed spouses (*N = *431 couples) was assessed five times, each 9 months apart, during the first 4 years of marriage. Lower income couples did not have less satisfying marriages on average, nor did their satisfaction decline more steeply on average. They did, however, experience (a) significantly greater fluctuations in marital satisfaction across assessments and (b) significantly more variability between husbands and wives. If efforts to support the marriages of low-income couples are to address the unique characteristics of their marital development, these findings suggest that efforts to stabilize their marriages may be more effective than efforts to improve their satisfaction alone.*

Although marital disruption touches all segments of society, its effects are disproportionately experienced by the economically disadvantaged (Bramlett & Mosher, 2002; Fein, 2004). For spouses in lower income marriages, marital disruptions have been identified as a leading predictor of entry into poverty, especially for women (e.g., Haskins & Sawhill, 2003). For the children in these marriages, early exposure to marital disruption predicts later negative mental health symptoms and worse educational outcomes during adolescence (e.g., Spence, Najman, Bor, O'Callaghan, & Williams, 2002), which is especially noteworthy because lower income marriages are likely to involve young children (Elwood & Jencks, 2004).

Observing the disproportionate risk for dissolution among lower income marriages, many have assumed that marriages within lower income populations are experienced as less satisfying as well. Indeed, this has been one of the guiding assumptions of federal programs (e.g., the Healthy Marriage Initiative) aimed at strengthening marriages in low-income communities (Administration for Children and Families, 2012). Yet, to date, the empirical support for this assumption has been weak and inconsistent, primarily because of limitations in the samples addressed and the analytic methods employed. The primary goals of the current study were to overcome the limitations of prior research and evaluate the association between household income and marital satisfaction through longitudinal data from a diverse sample of newlywed couples.

Marital Satisfaction and Income

One framework for expecting lower income marriages to be less satisfying is the Vulnerability–Stress–Adaptation (VSA) model

Department of Psychology, University of California, 1285 Franz Hall, Los Angeles, CA 90095 (gracelouisejackson@gmail.com).

Key Words: family policy, longitudinal, low-income families, marital satisfaction, welfare reform.

(Karney & Bradbury, 1995), which identifies three categories of variables that may affect marital satisfaction and ultimately marital stability: enduring vulnerabilities (V), stressful contexts (S), and adaptive processes (A). Each of these categories is likely to differ between lower and higher income couples in ways that might detract from lower income couples' marriages. With respect to enduring vulnerabilities, lower income spouses are more likely to have been exposed to physical and sexual abuse in childhood (Cherlin, Burton, Hurt, & Purvin, 2004) and have poorer mental health (e.g., neuroticism and depression; Hammen, 2005; Lewis et al., 1998). With respect to stressful contexts, lower income marriages, by definition, develop within environments characterized by economic hardship, limited resources, and underemployment (Karney, Garvan, & Thomas, 2003; McLeod & Kessler, 1990). Lower income neighborhoods are also likely to contain more evidence of social disorder (e.g., more crowded, noisier, and in poorer condition; Evans, 2004). With respect to adaptive processes, several recent studies have demonstrated that the unique stressors faced by lower income couples limit their capacity to communicate effectively. Couples facing racial discrimination, for example, exhibit more verbal aggression (Trail, Goff, Bradbury, & Karney, 2011), those living in low-income neighborhoods display less warmth to their partners (Cutrona et al., 2003), and those facing stressful events and financial strain exhibit greater observed levels of negativity and criticism (Williamson, Karney, & Bradbury, 2013). When considered as a system, the enduring vulnerabilities, stressful contexts, and constrained adaptive processes of lower income couples support the prediction that their marriages may be less satisfying than those of more affluent couples.

Review and Critique of Existing Literature

Despite reasons to expect that lower income couples may have less satisfying marriages, research directly estimating associations between income and marital quality has been sparse. More common has been research linking marital quality to subjective assessments of financial strain, which have been consistently associated with lower marital satisfaction (e.g., Conger et al., 1990). As noted in previous reviews, however (e.g., White & Rogers, 2000), subjective financial strain and marital satisfaction are both self-reported psychological constructs, so associations between experienced strain and experienced distress may be inflated by shared method variance (Lorenz, Conger, Simon, Whitbeck, & Elder, 1991).

Far fewer studies have evaluated whether concrete measures of household income account for variance in couples' marital satisfaction. Although a few small studies have reported positive associations between income and satisfaction in specific populations of couples (e.g., rural African American couples [Brody et al., 1994] and couples in therapy [Dakin & Wampler, 2008]), larger and more representative samples have consistently shown no significant association. For example, in a nationally representative sample of more than 2,000 individuals in dating, cohabiting, and married relationships in Florida, Maisel and Karney (2012) reported nonsignificant associations between household income and marital quality. A similar study conducted in Germany with nearly 3,000 participants found nonsignificant associations (Hardie, Geist, & Lucas, 2014). These patterns are also replicated in smaller studies of African American marriages (Bowman & Forman, 1997; Clark-Nicolas & Gray-Little, 1991). Moreover, a study of 340 couples in Croatia reported nonsignificant direct correlations between income and marital quality, but did find that income had indirect associations with marital quality through subjective economic stress (Čudina-Obradović & Obradović, 2006).

One possible reason why associations between household income and marital satisfaction may have been hard to detect is that most prior studies of these issues have sampled from populations of established married couples (Feng, Giarrusso, Bengtson, & Frye, 1999; Schramm & Harris, 2011) or couples experiencing parenthood (Brody et al., 1994). Because marital quality has been shown to decline significantly during the first years of marriage (VanLaningham, Johnson, & Amato, 2001) and because divorce is most likely to occur within the first years of marriage (e.g., Kurdek, 1998), samples of established married couples are likely to exclude those who have already left the population through divorce or separation, that is, those most at risk (Karney & Bradbury, 1995). Yet these couples may be the ones for whom income matters the most,

as distressed lower income couples may not have access to resources such as marital therapy, vacations, or social support that could help them maintain intimacy in the face of stress.

Implications of a Longitudinal Analysis of Marital Satisfaction

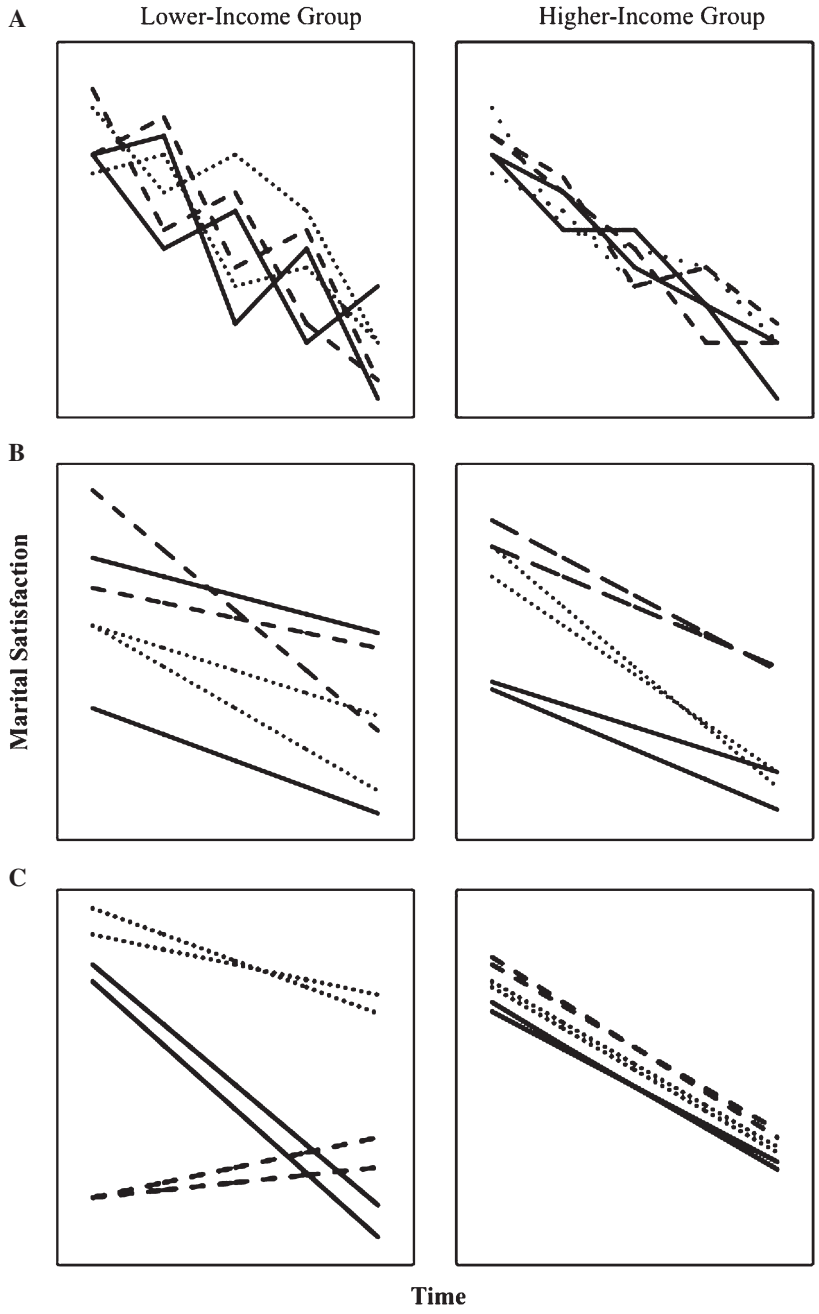
Understanding the potential impact of income on couples over time may also require research that addresses marital satisfaction as it changes and develops during the course of the relationship. Indeed, within the broader literature on couples, many researchers have evaluated relationship satisfaction as a multifaceted outcome captured by two components: levels of satisfaction and slopes of satisfaction (see Karney & Bradbury, 1995, for a review), which together describe linear trajectories of satisfaction over time.

Associations between income and levels of satisfaction over time can be estimated as the fixed intercept effect of income on average levels of marital satisfaction across time. This is the component of marital satisfaction most regularly assessed in previous research on income and satisfaction, which allows researchers to ask the following question: "Do couples at different levels of income tend to have different levels of marital satisfaction?" Associations between income and linear changes in satisfaction over time can be estimated as the fixed linear slope effect of income on marital satisfaction. Analyzing this component allows researchers to ask the following question: "Do couples at different levels of income have more or less difficulty in maintaining their marital satisfaction over time?" Only two studies we are aware of have evaluated the association between household income and slopes of satisfaction, and, similar to the population-representative studies on income levels and satisfaction, nonsignificant associations have generally been reported. Hardie et al. (2014) found nonsignificant associations between household income and satisfaction slopes in their study of nearly 3,000 German participants. In their study of more than 1,000 married individuals in the United States, Rogers and DeBoer (2001) found that increases in wives' income was associated with positive changes in marital satisfaction over 8 years, but no association was documented for husbands nor for joint household income.

Yet these two fixed effects do not exhaust the ways that the trajectories of lower and higher income couples may differ from each other. In addition to these fixed effects on intercepts and slopes, three random effects may also distinguish between the marital quality trajectories of higher and lower income couples. For example, as illustrated in Figure 1A, couples may differ in the residual variability in their satisfaction between time points. Assessing differences in residual variability across lower and higher income groups allows researchers to ask the following question: "Do couples at different levels of income have more unstable or fluctuating relationship satisfaction over time?" Fluctuations in repeated measures of marital satisfaction are worth studying because, according to Kelley (1983), the experience of fluctuations in the quality of the relationship over time can lead to uncertainty about the relationship even during periods experienced as satisfying. Such uncertainty may eventually lead to less happy and less stable relationships. Indeed, in prior studies, greater residual variability has been associated with a higher risk of relationship dissolution and lower relationship commitment, even after controlling for overall levels of relationship satisfaction (Arriaga, 2001; Campbell, Simpson, Boldry, & Rubin, 2010; Whitton, Rhoades, & Whisman, 2014). Because lower income couples experience more acute stressors (McLeod & Kessler, 1990), and acute stress varies over time, we predict that the partners' ability to effectively cope and engage in positive interactions with each other will become more difficult at times when demands increase, which in turn will reduce satisfaction at that time (Neff & Karney, 2004). When the presence of acute stressors decreases, however, partners may return to higher levels of functioning, leading to increases in their marital satisfaction as well (Karney, Story, & Bradbury, 2005). As a consequence, lower income couples' marriages may be characterized by wider fluctuations in satisfaction between assessments than more affluent couples' marriages.

In addition to the fixed and random parameters that characterize individuals' trajectories, it is also possible to examine differences in variability among couples within lower and higher income groups. For example, as illustrated in Figure 1B, we can evaluate whether there are group differences in variability between partners within couples. This random component allows researchers to ask the following: "Are the marital satisfaction ratings of husbands and wives more discordant within lower income couples than

FIGURE 1. PREDICTED RANDOM EFFECTS OF INCOME ON MARITAL SATISFACTION TRAJECTORIES WITHIN PERSON (A), WITHIN COUPLE (B), AND BETWEEN COUPLES (C)



Note. The six panels illustrate trajectories of marital satisfaction for husbands and wives in three hypothetical couples. Each couple is represented by its own pattern. The two A panels illustrate greater variability between observations in the lower income group than in the higher income group. The two B panels illustrate greater discordance between partners within a couple in the lower income group than in the higher income group. The two C panels illustrate greater variability among lower income couples than among higher income couples.

within higher income couples?" We predict there may be more discordance between lower income spouses' ratings of their marriage because of the increased time demands in resource-poor environments that may lead lower income couples to have less shared leisure time in which to develop a common understanding of their relationship (Gager & Sanchez, 2003).

Finally, we can also examine variability between couples, as illustrated in Figure 1C. This allows us to ask the following: "Does marital satisfaction vary more among lower income couples than among higher income couples?" Because affluent couples have resources that can buffer them from crises, they may experience fewer extremes in satisfaction than lower income couples who lack those protections (Shipler, 2008).

Overview of the Current Study

Given interest in low-income marriages from policymakers and the limitations of prior research on the associations between income and marital satisfaction, the current study was designed to examine all of the ways that household income may be associated with trajectories of marital satisfaction among couples in their first years of marriage. Newlyweds are an appropriate sample in which to address these issues for several reasons. First, even in more affluent communities, the early years of marriage are a period of elevated risk for declines in marital satisfaction (Johnson et al., 2005), suggesting that the challenges couples face during this period are particularly important for the future of the relationship. Second, younger couples (i.e., of childbearing age) are the explicit targets of federal policies and programs (Ooms, Bouchet, & Parke, 2004) and are still underrepresented in marital research (Fein, 2004). Third, examining couples in the early years of marriage ensures that the sample does not exclude the most vulnerable couples, who might dissolve and therefore be absent from populations of more established relationships (Karney & Bradbury, 1995). Fourth, sampling couples who are homogenous in terms of marital duration and relationship stage reduces the likelihood that results are affected by unexamined confounds. To ensure that our sample contained a full range of income levels, we made a special effort to recruit from lower income communities.

The current study makes use of five waves of data collected every 9 months during the first 4 years of marriage. In this sample, we compared lower and higher income couples in terms of their divorce risk as well as five unique dimensions of their marital satisfaction trajectories. Drawing on the VSA model and prior research, we predicted that, when compared with more affluent couples, lower income couples would report their marriages to be less satisfying across time (a lower intercept), their satisfaction would decline more steeply over time (a more negative linear slope), their satisfaction would fluctuate more (greater residual variance), spouses' satisfaction would be more discordant within each couple (random individual within couple effect), and there would be more variability among couples (random couple effect).

In prior research, comparisons of marital satisfaction across couples at different levels of income often neglect to adjust for confounding differences between couples. For example, when compared with higher income couples, lower income couples have fewer years of formal education and are more likely to have children prior to entering marriage (Elwood & Jencks, 2004). Each of these differences has implications for the expected marital satisfaction of a given couple. For example, less-educated husbands and wives are more likely to experience marital distress (Kurdek, 1991), and the transition to parenthood has been associated with changes in couple's marital satisfaction (Doss, Rhoades, Stanley, & Markman, 2009; Twenge, Campbell, & Foster, 2003). Without analyses that adjust for these variables directly, it is impossible to determine whether observed differences in the trajectories of marital satisfaction of lower and higher income couples are correlates of these demographic differences or differences independently associated with income. Therefore, the analyses reported below adjust for variables likely to differ between lower and higher income couples in the present sample, including age, education, race/ethnicity, parental status, and immigration status.

Method

Sampling

Newlywed couples were identified via marriage license records obtained from the Los Angeles County Recorder's Office in 2009. Using zip codes from marriage license databases,

addresses from couples who had applied for marriage licenses were matched with census data to identify applications submitted from low-income neighborhoods. Low-income neighborhoods were identified as those with a median household income of no more than 200% of the federal poverty level for a four-person family. A similar method has been used previously (Bramlett & Mosher, 2002) and is known to be more reliable than asking participants their income, as individuals can be reluctant to disclose this information.

Names on the marriage licenses were processed using a Bayesian Census Surname Combination developed by researchers at the RAND Corporation (Elliott et al., 2013). This algorithm integrates census and surname information to produce a multinomial likelihood of each individual falling within one of the following four racial/ethnic categories: Black, Hispanic, Asian, and White/Other. As part of a larger study on newlywed development, those couples identified as having a high probability of being Hispanic, Black, or White were contacted for recruitment into the longitudinal study. Follow-up phone calls were made, and those who were eligible and provided consent were included in the study. Eligibility criterion included (a) first marriage for each partner, (b) married less than 3 months, (c) living together (i.e., the couple could not be temporarily separated, nor could either partner be deployed or incarcerated), (d) were more than 18 years of age, (e) wives were younger than 40 years of age (to allow for the transition to parenthood for all couples), and (f) both spouses self-identified as the same race/ethnicity.

Participants

Using these eligibility criteria, 332 Hispanic (77%), 51 Black (12%), and 50 White (12%) couples were recruited into the study and were scheduled for an in-home visit shortly after determining eligibility ($N = 433$ couples; 866 individuals). The proportions of each group in the final sample roughly matched the proportion of each group living in low-income neighborhoods in Los Angeles (i.e., 60.5% Hispanic, 12.9% Black, and 14.7% White; U.S. Census Bureau, 2002). The mean length of marriage at baseline was 4.8 months ($SD = 2.5$). Men's mean age was 27.9 years old ($SD = 5.8$) and women's mean age was 26.2 years old ($SD = 5.0$). Wives' and husbands' average self-reported joint household income was $57,000. By the end of the 4-year study, 55 couples had divorced: 39 Hispanic couples (12%), 11 Black couples (22%), and 5 White couples (10%).

Procedure

At baseline, couples were visited in their homes by two trained interviewers who described the institutional-review-board-approved study and obtained consent from each participant. Demographic information and a measure of marital satisfaction were collected at this time. Follow-up interviews were scheduled 9, 18, and 27 months after the baseline interview in their homes. A fifth interview was conducted 36 months after baseline over the phone. Relationship satisfaction and divorce status were measured at each of these time points. At the end of each phase of assessment, the couples were debriefed and compensated for their time.

Measures

Household income. Household income was collected at the baseline interview and at each follow-up assessment. Husbands and wives were independently asked the following: "Thinking about your income and the income of everyone else in your household, what was your total household income from all sources before taxes in the past 12 months?" Participants were instructed to select one of the following categories: 1 = *less than $5,000;* 2 = *$5,000–$9,999;* 3 = *$10,000–$14,999* … 21 = *more than $100,000*. Reported household income remained stable over time, such that baseline and Time 5 reports were significantly positively correlated ($r = .73$ for husbands, and $r = .69$ for wives). Thus, only baseline income was used as a predictor. Husbands' and wives' reports also correlated highly ($r = .72$) and were averaged to yield a couple-level household income variable. When data from one spouse were missing, the other spouse's report was used for the couple. Five couples had missing data and are excluded from the analyses.

Household income ranged widely in the sample, such that some couples reported an annual household income less than $5,000 annually, whereas others reported more than $100,000, with a median in the range of $45,000–$50,000. This median household

income is roughly equivalent to the national U.S. median household income of $51,017 as of 2012 and slightly lower than that for California, $58,328, and Los Angeles, $57,271 (U.S. Census Bureau, 2013). Testing for differences in random effects across income required that we create distinct categories of income so that we could model heterogeneous variance structures using the GROUP = option in SAS PROC MIXED RANDOM and REPEATED statements (SASInstitute, 2001). To accomplish this, couples with a reported household income less than or equal to $50,000 annually were considered lower income ($n = 208$ couples), and those with an annual household income higher than $50,000 annually were coded as higher income ($n = 220$ couples).

Other demographic information. Demographic data were collected at the baseline interview. Each participant's date of birth, level of education, immigration status, and whether the couple had any children were all collected at this time. Age at the baseline interview was calculated from the self-reported birth date. Education was measured and recoded into four categories where 1 represented "less than high school," 2 for "a high school degree," 3 for "some college experience," and 4 for "a college degree or higher." Participants were also asked if they had U.S. citizenship. Those who self-identified as having only a green card, temporary visa, or neither were given a dummy code of 1 for "immigrant," whereas all U.S. citizens were given a code of 0 for "nonimmigrant." To assess the presence of children, husbands and wives were independently asked, "Who lives in your current household (besides the two of you)?" with one of the response options being "your (or your spouse's) children (include biological, adopted, step and foster children)." If either the husband or wife reported children in the home, the couple was given a dummy code of 1 for "children present" or 0 for "no children present."

Relationship satisfaction. Relationship satisfaction was assessed by summing responses across eight items. Five items asked how satisfied the respondent was with certain areas of their relationship (e.g., "satisfaction with the amount of time spent together") and were scored on a 5-point scale (ranging from 1 = *very dissatisfied* to 5 = *very satisfied*). Three items asked how much the participant agreed with a statement about their relationship (e.g., "how much do you trust your partner") and were scored on a 4-point scale (1 = "not at all," 2 = "not that much," 3 = "somewhat," 4 = "completely"). All eight items were summed so that scores ranged from 8 to 37. Coefficient alphas from Times 1 through 5 were the following: .70, .75, .77, .79, and .78 for wives and .70, .78, .76, .83, and .81 for husbands. Spouses' marital satisfaction scores were significantly positively correlated between the initial and final assessments ($r = .43$ for wives and $r = .50$ for husbands).

Analytic Method and Rationale

The goal of the current article was to examine whether trajectories of marital satisfaction and risk of divorce are associated with household income. To address this question, we extend cross-sectional dyadic methods developed by Blood, Kalish, and Shrier (2013) for longitudinal dyadic data using a mixed effects regression model that includes fixed effects and random effects at the level of the repeated observations (L1), nested within individuals (L2), and nested within dyads (L3). This model can be represented by the following equation:

$$\begin{aligned} Y_{ipj} = {} & \beta_0 + \beta_1 Income_j + \beta_2 Time_{ipj} \\ & + \beta_3 Income * Time_{ipj} + \nu_{1ip} + \nu_{2ip} \\ & + \omega_{1p} + \omega_{2p} + \varepsilon_{ipj} \end{aligned} \quad (1)$$

where j indexes each unique observation nested within the ith individual nested within the pth dyad. In the analyses here, time represents the wave of assessment and is coded from 0 to 4 (so that the intercept represents initial marital satisfaction, and the $Time_{ipj}$ effect represents the linear slope effect on marital satisfaction between each 9-month wave). To determine if there are significant differences in the fixed effects of marital satisfaction trajectories across household income groups, we can look for significance in two places: intercepts and slopes. To identify household income differences in intercepts, we look at the $\beta_1 Income_j$ parameter. To identify household income differences in slopes, we look at the β_3 $Income * Time_{ipj}$ parameter.

With respect to the random effects, ν_{1ip} and ω_{1p} index random effects on the intercepts at the individual and dyad levels, and ν_{2ip} and ω_{2p} index random time slopes at the individual and dyad levels. We conducted a series of nested likelihood ratio tests to determine whether all of

these random effects were necessary to model satisfaction trajectories. The results of these tests confirmed that including all of these trajectory components was appropriate. Thus, in all analyses reported next, we report models with random effects for the residual (L1), random effects for the full trajectory (intercept variance, slope variance, and the covariance between intercepts and slopes) at the individual level (L2), as well as a full trajectory at the dyad level (L3).

To determine if there are significant differences in the random effects of marital satisfaction trajectories across income groups, we ran an additional series of nested likelihood ratio tests to look for significant improvement in fit from homogeneous variance models (i.e., those estimating the same variance parameters for all couples) in comparison to heterogeneous variance models (i.e., those estimating variance parameters for couples in the lower and higher income groups separately).

All of these analyses estimate equations at all levels of nesting simultaneously (up to five repeated observations nested within individuals and individuals nested within couples) controlling for effects on all other parameters. Growth curve modeling provides maximally efficient estimates of trajectories by weighting parameter estimates with the cases composed of complete data, that is, those that can be estimated precisely. When the trajectory of an individual cannot be estimated precisely, the final estimate relies more heavily on the mean of the sample. In this way, we were able to make use of data from all spouses in the sample, even if they dissolved their relationship before the end of the study.

Results

Preliminary Analyses

To examine differences between the lower and higher household income groups on demographic variables at the baseline assessment, we conducted a series of chi-square tests for dichotomous variables and independent samples *t* tests for continuous variables; the results of these tests are presented in Table 1. The higher and lower income groups differed significantly on almost every demographic variable we measured. For example, couples in the lower income group were significantly more likely to have children than those in the higher income group. Hispanic couples were significantly overrepresented in the lower income group, White couples were significantly underrepresented, and Black couples were equally likely to be in the lower and higher income groups. Both husbands and wives who were immigrants were significantly less likely to be in the lower income group. The couples categorized as lower income were also significantly younger and significantly less educated. All of these variables were included as covariates in subsequent analyses. It is worth noting, however, that inclusion or exclusion of these covariates did not change the significance or directions of our results.

Relationship Dissolution and Income

One preliminary goal was to replicate the well-established finding that lower income couples experience greater rates of marital dissolution than higher income couples. In the present study, 19.8% of relationships dissolved

Table 1. *Descriptive Statistics and Tests of Differences by Income Group*

	Lower income group *M* (*SD*) or %	Higher income group *M* (*SD*) or %	Test of differences between income groups
% Black	12.5	11.4	$\chi^2(1) = 0.13$
% Hispanic	84.6	68.4	$\chi^2(1) = 15.14^{**}$
% White	2.9	20.0	$\chi^2(1) = 30.36^{**}$
% Parents	51.4	27.3	$\chi^2(1) = 26.25^{**}$
% Husband's immigrant status	59.9	82.3	$\chi^2(1) = 26.15^{**}$
% Wife's immigrant status	63.3	88.2	$\chi^2(1) = 35.99^{**}$
Husband's age	26.9 (6.0)	28.9 (5.5)	$t(426) = 3.47^{*}$
Wife's age	25.2 (5.1)	27.3 (4.6)	$t(426) = 4.51^{**}$
Husband's education	2.05 (0.9)	2.95 (0.9)	$t(425) = 10.12^{**}$
Wife's education	2.28 (0.9)	3.17 (0.9)	$t(425) = 9.98^{**}$
Household income	$27,427.88 ($11,792.57)	$73,852.27 ($17,710.84)	$t(426) = 31.73^{**}$

$^{*}p < .01$. $^{**}p < .001$.

in the lower income group ($n = 32$ couples), whereas only 13.2% of relationships dissolved in the higher income group ($n = 23$ couples). This difference, however, was not statistically significant, $\chi^2(1) = 2.72$, $p = .11$. These divorce rates are comparable with those reported from census data 4 years postmarriage of 17%, 11%, and 9% for lower, middle, and higher income couples, respectively (Bramlett & Mosher, 2002). Thus, the smaller sample size here, as compared to census data, may account for the lack of significance. Further assessments may reveal greater deviations over time.

Determining a Best-Fitting Model for Random Effects

To examine whether there were significant differences across income groups on the five aspects of lower and higher income couples' marital satisfaction trajectories, we first had to find the best-fitting model with respect to random effects. To do this, we conducted a series of nested likelihood ratio tests that examined whether variability of marital satisfaction trajectories existed across income groups at all combinations of the three levels of nesting within the data (random effects for observations L1, individuals L2, and dyads L3). After testing all possible combinations, we determined that the best-fitting model separately estimated variability of marital satisfaction between observations by income groups, $\chi^2(1) = 10.5$, $p < .01$; variability of marital satisfaction between individuals within couples by income group, $\chi^2(3) = 11.9$, $p < .01$; but not variability of marital satisfaction between couples by income group, $\chi^2(3) = 1.7$, $p = .64$. Although the results from the best-fitting model did not estimate separate dyad-level parameters by income group, we present results from the full model estimating all of these components separately in Table 2 for ease of comparisons. The direction and magnitude of all effects in the best-fitting model are comparable with those presented in Table 2 and are available from the authors on request.

Relationship Satisfaction Trajectory and Income—Fixed Effects

Our first research question was the following: "Do couples at different levels of income tend to have different levels of marital satisfaction?" As presented in Table 2, lower and higher income couples did not significantly differ in their level of satisfaction at the beginning of their marriage, $\beta = -.02$, $SE = 0.28$, $t(421) = -0.08$, $p = .94$. Rather, both higher and lower income husbands and wives reported high initial marital satisfaction with averages at 34 of a possible 37.

Our second research question was the following: "Do couples at different levels of income have more or less difficulty in maintaining their marital satisfaction over time?" As is true in nearly all longitudinal studies of marital satisfaction (e.g., Kurdek, 1998), there was a significant main effect of time, such that all couples experienced statistically significant declines in satisfaction across assessments, $\beta = -.36$, $SE = 0.06$, $t(386) = -5.66$, $p < .001$. These declines were relatively small, leading to an average decline of only 1.44 points during the first 4 years of marriage. Lower and higher income couples did not differ significantly in their rates of linear change in satisfaction over time, $\beta = -.13$, $SE = 0.09$, $t(386) = -1.46$, $p = .15$. Thus, most of the couples were relatively happy at the beginning and, despite statistically significant declines, maintained close to their initial level of happiness for 4 years, regardless of income.

To ensure that these estimates were not simply underpowered as a function of evaluating household income as a dichotomous variable, we conducted a follow-up analysis using the original household income variable. This analysis confirmed that household income still did not moderate satisfaction intercepts, $\beta = -.004$, $SE = 0.03$, $t(1865) = -0.17$ $p = .86$, or slopes, $\beta = -.01$, $SE = 0.01$, $t(1865) = -1.51$, $p = .13$.

Relationship Satisfaction Trajectory and Income—Random Effects

As reported earlier, the model that fit best indicated that there were significant differences by income group in two of the three random effects. The results of these analyses answer our final three research questions about differences in income across random effects. Our third research question was the following: "Do couples at different levels of income have more unstable or fluctuating relationship satisfaction over time?" As revealed in Table 2, our best-fitting model indicated that indeed there were significant differences by income groups for the within-subjects effect, indicating that satisfaction varied between assessments nearly 20% more among individuals in the lower

Table 2. *Fixed and Random Effects of Income on Marital Satisfaction Trajectory*

	Lower income estimate (*SE*)	Higher income estimate (*SE*)	Test of differences between income groups
Fixed effects			
Intercept	34.34 (0.82)*	34.32 (0.85)*	$b = -0.02$ ($SE = 0.28$), n.s.
Slope	−0.36 (0.06)*	−0.48 (0.06)*	$b = -0.13$ ($SE = 0.09$), n.s.
Random effects			
Residual, L1	5.95 (0.29)*	5.01 (0.22)*	$\chi^2(1) = 10.5$, $p < .01$
Individual level, L2			
Intercept variance	3.49 (0.78)**	1.61 (0.49)**	
Covariance	0.34 (0.15)*	0.31 (0.10)*	$\chi^2(3) = 11.9$, $p < .01$
Slope variance	0.03 (0.08)*	0.05 (0.06)*	
Dyad intercept variance, L3			
Intercept variance	3.89 (0.89)**	3.51 (0.64)**	
Covariance	0.12 (0.20)	0.06 (0.15)	$\chi^2(3) = 1.7$, $p = .64$
Slope variance	0.29 (0.09)*	0.39 (0.07)*	

Note. All estimates presented are adjusting for fixed effects of parental status, race, husbands' and wives' age, education level, and immigration status as covariates. Estimates are from a best-fitting model that allows for random income differences at both the observation and individual levels but not the dyad level, but chi-square tests are presented from simplified nested models. n.s. = not significant.

*$p < .05$. **$p < .001$.

income group when compared with individuals in the higher income group, $\chi^2(1) = 10.5$, $p < .01$.

Our fourth research question was, "Are the marital satisfaction ratings of husbands and wives more discordant within lower income couples than within higher income couples?" As revealed in Table 2, our best-fitting model indicated that there was greater variability in reported marital satisfaction trajectories between lower income husbands and lower income wives than between higher income husbands and higher income wives, $\chi^2(3) = 11.9$, $p < .01$. Specifically, lower income husbands' and wives' intercepts varied between spouses within a couple more than twice as much when compared with the intercepts of more affluent husbands and wives, who tended to be more similar to one another on average.

Our fifth research question was, "Does marital satisfaction vary more among lower income couples than among higher income couples?" As revealed in Table 2, our best-fitting model indicated that there were no differences in the range of experiences of lower and higher income couples, $\chi^2(3) = 1.7$, $p = .64$.

Discussion

According to census data, lower income couples are at a substantially higher risk of divorce than higher income couples (e.g., Bramlett & Mosher, 2002). Drawing on this observation and strong predictions from family stress models (e.g., the VSA model; Karney & Bradbury, 1995), policymakers have assumed that the marriages of lower income couples are also less satisfying and have designed programs to strengthen lower income families based on this assumption. The evidence to support this assumption has been mixed at best, however. Although a few studies have shown a positive association between marital quality and objective measures of income (e.g., Brody et al., 1994; Dakin & Wampler, 2008), most do not (e.g., Bowman & Forman, 1997; Clark-Nicolas & Gray-Little, 1991; Hardie et al., 2014; Maisel & Karney, 2012).

Consistent with the majority of prior research on these associations, lower income couples in our sample were not more or less satisfied with their marriages than higher income couples, and on average their satisfaction remained as stable as that of more affluent couples over 4 years. In light of the good reasons to predict links between income and satisfaction, how can we understand the repeated failure to observe significant fixed effects of income on satisfaction? Some have argued that income contributes to well-being only to the extent that more money helps individuals meet basic needs (e.g., food,

clothing, shelter) and avoid poverty (Diener & Biswas-Diener, 2002). Once basic needs are met, as was likely to be true for the working couples sampled here, additional income may not be associated with greater well-being because the desire for material goods tends to rise with income. The results of this and most prior studies are consistent with this perspective and, taken by themselves suggest that research on the sources of higher divorce rates among lower income couples direct attention elsewhere.

Yet these analyses reveal that an exclusive focus on average trends can be misleading, obscuring real differences between higher and lower income couples that emerge only in the variability around the average for each group. The most noteworthy result of the analyses reported here is that, despite being just as satisfied with their marriages on average, lower income couples experience significantly greater variability in their satisfaction between assessments, that is, their satisfaction fluctuates more around the linear trend line. An implication of this difference is that lower income couples may experience their relationships as more turbulent over time than comparable higher income couples, even if they are just as satisfied on average. In his seminal theoretical work on close relationships, Kelley (1983) suggested that couples may attend to the stability and instability of their relationships separately from their sense of the average quality of the relationship. To the extent that couples experience periods of elation alternating with periods of frustration, they may question their security in the relationship even during good times, with negative consequences for commitment and satisfaction in the long run. Indeed, the few prior studies that have examined the implications of residual variance in partner's reports of relationship satisfaction have shown it to predict lower commitment and greater risk of dissolution even after controlling for overall levels of relationship satisfaction (Arriaga, 2001; Campbell et al., 2010; Whitton et al., 2014). To understand the increased risk of dissolution of lower income couples, then, it may not be sufficient to evaluate their overall marital quality, especially early in the relationship. These results suggest that spouses are sensitive to fluctuations in their marital satisfaction over time and that these fluctuations may harm the relationship even if average levels of satisfaction are relatively stable.

In addition to greater variability in satisfaction within lower income spouses over time, our analyses also revealed greater variability between lower income spouses, that is, the marital satisfaction scores of husbands and wives in lower income couples were more different from each other than the marital satisfaction scores of more affluent husbands and wives. This pattern of results may be attributed to the demands on lower income individuals to work multiple jobs, or jobs with nonstandard hours that can prevent couples from sharing leisure time together (Presser & Cox, 1997). Without the opportunity to develop closeness, connection, and a common understanding of their relationship through shared experiences (Gager & Sanchez, 2003), lower income couples may be at greater risk of divorce if one spouse is happy and the other is not, even when on average lower income couples are just as satisfied as more affluent couples.

Finally, although there was significant variability in both lower and higher income couples' marital satisfaction trajectories at the dyadic level, there was no significant difference in this variability across income groups. This finding suggests that the consequences of living in a resource-poor environment are not uniform for all lower income couples, but neither are the benefits of living in resource-rich environment. A task for future research is to identify the characteristics of both lower and higher income couples that allow some to experience higher quality relationships. The VSA model (Karney & Bradbury, 1995) offers some guidance, proposing that the couples who adapt best to stressful environments should be those with the fewest enduring vulnerabilities or the greatest personal strengths. Identifying specific sources of strength and vulnerability may help to target interventions to avoid devoting limited resources toward couples whose relationships may be successful even without exposure to interventions.

Strengths and Limitations

A number of strengths of the present study heighten confidence in these findings. First, whereas prior research on disadvantaged couples has examined perceptions of financial strain, here we included a concrete assessment of household income that is less likely to be biased by characteristics of spouses that may also be associated with their marital outcomes. Second, this is the first study of which

we are aware that has studied associations between income and marital satisfaction among newlywed couples, all of whom were in their first marriages and all of whom lived in the same region of the country. The relative homogeneity of our sample minimizes the chances of confounds because of unexamined third variables and makes this a more focused test of the associations between income and marital satisfaction than has been possible in other studies examining more diverse samples. Third, whereas most prior studies of these constructs have examined the link between income and satisfaction cross-sectionally, this is first to examine marital satisfaction trajectories using multiwave longitudinal data, allowing us to identify differences between lower and higher income groups that other studies may have missed.

Yet despite these strengths, several aspects of this study also limit the conclusions that these results can support. First, all of the data in the present study were obtained through self-report. To the extent that couples are unable or unwilling to report their household income accurately, these results may be an imperfect estimate of the true associations between income and marital satisfaction. Second, all of the data analyzed here were correlational. We have taken care to describe our results in terms of associations, as these data cannot support causal statements about the impact of income on marriage. Third, although the relative homogeneity of the couples in this sample strengthens the internal validity of this work, it limits our ability to generalize the conclusions to other populations. The associations between income and marital satisfaction may differ among unmarried cohabiting couples, more established married couples, remarried couples, or couples from rural environments, other regions of the country, or other countries entirely. Moreover, the associations found here may change over time as couples' relationships progress. For example, although we did not document a significant fixed effect of income on marital satisfaction slopes during the first 4 years of marriage, the variability in satisfaction experienced early in their relationship may transform into significant fixed slope effects at greater marital durations. Fourth, we recognize that considering household income alone is an oversimplification of the economics of a given household; their assets, debts, and financial strains may also interact with marital processes in unique ways. Fifth, although comparing groups in heterogeneous variance models required that we create distinct categories in the income variable (Blood et al., 2013), doing so also results in loss of information, diminished power, and smaller effect sizes (MacCallum, Zhang, Preacher, & Rucker, 2002). Confidence in these results would be strengthened by future research that replicated the patterns obtained here using other models.

Implications for Research and Policy

Considerable resources are currently being allocated for programs to prevent or alleviate marital dysfunction in lower income populations. These resources will be spent most effectively to the extent that they are informed by an explicit understanding of how lower income marriages develop. Each of the differences revealed by this comparison has implications for interventions.

To the extent that the average lower income couple is just as satisfied as the average higher income couple, then broad-spectrum efforts to make marriages better in lower income communities (an explicit goal of the Supporting Healthy Marriage project) may not be the most effective approach toward lowering the disproportionately high divorce rates in these communities. Instead, the greater variability experienced by lower income couples highlights a need to pinpoint the specific times when their relationships are vulnerable, to identify the sources of those periodic challenges, and to develop ways of assisting couples through those times. As far as understanding the causes of instability in lower income marriages, previous research has demonstrated that lower income couples' relationships are significantly more likely to face external acute stressors (i.e., financial or health problems, unstable employment; Jackson et al., 2016; Trail & Karney, 2012). Policies that protect couples from these stressors at a community level (i.e., offering local child care, health care, or job training) may indirectly benefit marriages (for an example of such a program, see Hardoy & Schøne, 2008). Indeed, some state programs are taking this approach already (Ooms et al., 2004). In addition to promoting the stability of lower income couples' environments, interventions might also teach couples how to identify and cope with stressful periods (for an example of such a program, see Bodenmann & Shantinath, 2004). Even if the stressor itself cannot be ameliorated, it may also be useful to teach

couples how to recognize when stress is spilling over into the relationship and encourage couples to reaffirm their partners and resist scrutinizing the relationship during these low points. Future research that identifies the circumstances surrounding couples' lowest points may help programs identify when interventions would be most beneficial.

To the extent that there is greater variability between lower income spouses than between higher income spouses, these findings also highlight the need to identify for whom interventions would be most beneficial. To date, government programs have targeted vulnerable couples on the basis of a single dimension of vulnerability: being low income. Our results suggest that being low income does not assure an unhappy or unstable marriage. Efforts at secondary prevention that focus on specific vulnerabilities, for example, low-income spouses who also face challenges with physical or mental health, may result in larger effects on couples that receive treatment and less effort spent fruitlessly on those who would succeed even without interventions.

Note

Preparation of this report was supported by Research Grants HD053825 and HD061366 from the National Institute of Child Health and Human Development awarded to Benjamin R. Karney.

References

Administration for Children and Families. (2012). *ACF healthy marriage initiative*. Retrieved from http://acf.gov/healthymarriage/

Arriaga, X. B. (2001). The ups and downs of dating: Fluctuations in satisfaction in newly formed romantic relationships. *Journal of Personality and Social Psychology, 80*, 754–765. doi:10.1037/0022-3514.80.5.754

Blood, E. A., Kalish, L. A., & Shrier, L. A. (2013). Estimating heterogeneous intra-class correlation coefficients in dyadic ecological momentary assessment. *Journal of Modern Applied Statistical Methods, 12*, 207–219.

Bodenmann, G., & Shantinath, S. D. (2004). The couples coping enhancement training (CCET): A new approach to prevention of marital distress based upon stress and coping. *Family Relations, 53*, 477–484. doi:10.1111/j.0197–6664.2004. 00056.x

Bowman, P. J., & Forman, T. A. (1997). Instrumental and expressive family roles among African American fathers. In R. J. Taylor, J. S. Jackson, & L. M. Chatters (Eds.), *Family life in Black America* (pp. 216–249). Newbury Park, CA: SAGE.

Bramlett, M. D., & Mosher, W. D. (2002). *Cohabitation, marriage, divorce, and remarriage in the United States* (Series 23, No. 22). Atlanta, GA: Centers for Disease Control and Prevention.

Brody, G. H., Stoneman, Z., Flor, D., McCrary, C., Hastings, L., & Conyers, O. (1994). Financial resources, parent psychological functioning, parent co-caregiving, and early adolescent competences in rural two-parent African-American families. *Child Development, 65*, 590–605. doi:10.1111/j.1467-8624.1994.tb00770.x

Campbell, L., Simpson, J. A., Boldry, J. G., & Rubin, H. (2010). Trust, variability in relationship evaluations, and relationship processes. *Journal of Personality and Social Psychology, 99*, 14–31. doi:10.1037/a0019714

Cherlin, A. J., Burton, L. M., Hurt, T. R., & Purvin, D. M. (2004). The influence of physical and sexual abuse on marriage and cohabitation. *American Sociological Review, 69*, 768–789. doi:10.1177/000312240406900602

Clark-Nicolas, P., & Gray-Little, B. (1991). Effect of economic resources on marital quality in Black married couples. *Journal of Marriage and the Family, 53*, 645–655. doi:10.2307/352740

Conger, R. D., Elder, G. H., Lorenz, F. O., Conger, K. J., Simons, R. L., Whitbeck, L. B., … Melby, J. N. (1990). Linking economic hardship to marital quality and instability. *Journal of Marriage and the Family, 52*, 643–656. doi:10.2307/352931

Čudina-Obradović, M., & Obradović, J. (2006). Marital partners' income as a determinant of marriage quality. *Društvena Istraživanja-Časopis za Opća Društvena Pitanja, 81* (1–2), 117–139.

Cutrona, C. E., Russell, D. W., Abraham, W. T., Gardner, K. A., Melby, J. M., Bryant, C., & Conger, R. D. (2003). Neighborhood context and financial strain as predictors of marital interaction and marital quality in African American couples. *Personal Relationships, 10*, 389–409. doi:10.1111/1475-6811.00056.

Dakin, J., & Wampler, R. (2008). Money doesn't buy happiness, but it helps: Marital satisfaction, psychological distress, and demographic differences between low- and middle-income clinic couples. *American Journal of Family Therapy, 36*, 300–311. doi:10.1080/01926180701647512

Diener, E., & Biswas-Diener, R. (2002). Will money increase subjective well-being? A literature review and guide to needed research. *Social Indicators Research, 57*, 119–169.

Doss, B. D., Rhoades, G. K., Stanley, S. M., & Markman, H. J. (2009). The effect of the transition to parenthood on relationship quality: An 8-year prospective study. *Journal of Personality and Social Psychology, 96*, 601–619. doi:10.1037/a0013969

Elliott, M. N., Becker, K., Beckett, M. K., Hambarsoomian, K., Pantoja, P., & Karney, B. R. (2013). Using indirect estimates based on name and census tract to improve the efficiency of sampling matched ethnic couples from marriage license data. *Public Opinion Quarterly, 77*, 375–384. doi:10.1093/poq/nft007

Elwood, D. T., & Jencks, C. (2004). The uneven spread of single-parent families: What do we know? What do we need to know? Where do we look for answers? In K. M. Neckerman (Ed.), *Social inequality* (pp. 3–118). New York: Russell Sage.

Evans, G. W. (2004). The environment of childhood poverty. *American Psychologist, 59*, 77–92. doi:10.1037/0003-066X.59.2.77

Fein, D. J. (2004). *Married and poor: Basic characteristics of economically disadvantaged married couples in the U. S.* (Supporting Healthy Marriage Evaluation, Working Paper No. SHM-01). Washington, DC: U.S. Department of Health and Human Services.

Feng, D., Giarrusso, R., Bengtson, V. L., & Frye, N. (1999). Intergenerational transmission of marital quality and marital instability. *Journal of Marriage and the Family, 61*, 451–463. doi:10.2307/353761

Gager, C. T., & Sanchez, L. (2003). Two as one? Couples' perceptions of time spent together, marital quality, and the risk of divorce. *Journal of Family Issues, 24*, 21–50. doi:10.1177/0192513x02238519

Hammen, C. (2005). Stress and depression. *Annual Review of Clinical Psychology, 1*, 193–319. doi:10.1146/annurev.clinpsy.1.102803.143938

Hardie, J. H., Geist, C., & Lucas, A. (2014). His and hers: Economic factors and relationship quality in Germany. *Journal of Marriage and Family, 76*, 728–743. doi:10.1111/jomf.12129.

Hardoy, I., & Schøne, P. (2008). Subsidizing "stayers"? Effects of a Norwegian child care reform on marital stability. *Journal of Marriage and Family, 70*, 571–584. doi:10.1111/j.1741-3737.2008.00506.x

Haskins, R., & Sawhill, I. V. (2003). *Work and marriage: The way to end poverty and welfare* (Policy Brief No. 28). Washington, DC: Brookings Institution.

Jackson, G. L., Trail, T. E., Kennedy, D. P., Williamson, H. C., Bradbury, T., & Karney, B. R. (2016). The salience and severity of relationship problems among low-income couples. *Journal of Family Psychology, 30*, 2–11. doi:10.1037/fam0000158

Johnson, M. D., Cohan, C. L., Davila, J., Lawrence, E., Rogge, R. D., Karney, B. R., … Bradbury, T. N. (2005). Problem-solving skills and affective expressions as predictors of change in marital satisfaction. *Journal of Consulting and Clinical Psychology, 73*, 15–27. doi:10.1037/0022-006X.73.1.15

Karney, B. R., & Bradbury, T. N. (1995). The longitudinal course of marital quality and stability: A review of theory, methods, and research. *Psychological Bulletin, 118*, 3–34. doi:10.1037/0033-2909.118.1.3

Karney, B. R., Garvan, C. W., & Thomas, M. S. (2003). *Family formation in Florida: 2003 Baseline survey of attitudes, beliefs, and demographics relating to marriage and family formation*. Gainesville, FL: University of Florida.

Karney, B. R., Story, L. B., & Bradbury, T. N. (2005). Marriages in context: Interactions between chronic and acute stress among newlyweds. In T. A. Revenson, K. Kayser, & G. Bodenmann (Eds.), *Couples coping with stress: Emerging perspectives on dyadic coping* (pp. 13–32). Washington, DC: American Psychological Association Press.

Kelley, H. H. (1983). Love and commitment. In H. H. Kelley, E. Berscheid, A. Christensen, J. H. Harvey, T. L. Huston, G. Levinger, E. McClintock, L. A. Peplau, & D. R. Peterson (Eds.), *Close relationships* (pp. 265–314). New York: Freeman.

Kurdek, L. A. (1991). Predictors of increases in marital distress in newlywed couples: A three-year prospective study. *Developmental Psychology, 27*, 627–636. doi:10.1037/0012-1649.27.4.627

Kurdek, L. A. (1998). The nature and predictors of the trajectory of change in marital quality over the first four years of marriage for first-married husbands and wives. *Journal of Family Psychology, 12*, 494–510. doi:10.1037/0893-3200.12.4.494

Lewis, G., Bebbington, P., Brugha, T., Farrell, M., Gill, B., Jenkins, R., & Meltzer, H. (1998). Socioeconomic status, standard of living, and neurotic disorder. *The Lancet, 352*(9128), 605–609. doi:10.1016/S0140-6736(98)04494-8

Lorenz, F. O., Conger, R. D., Simon, R. L., Whitbeck, L. B., & Elder, G. H., Jr. (1991). Economic pressure and marital quality: An illustration of the method variance problem in the causal modeling of family processes. *Journal of Marriage and the Family, 53*, 375–388. doi:10.2307/352906

MacCallum, R. C., Zhang, S., Preacher, K. J., & Rucker, D. D. (2002). On the practice of dichotomization of quantitative variables. *Psychological Methods, 7*, 19–40. doi:10.1037//1082-989X.7.1.19

Maisel, N. C., & Karney, B. R. (2012). Socioeconomic status moderates associations among stressful events, mental health, and relationship satisfaction. *Journal of Family Psychology, 26*, 654–660. doi:10.1037/a0028901

McLeod, J. D., & Kessler, R. C. (1990). Socioeconomic status differences in vulnerability to undesirable life events. *Journal of Health and Social Behavior, 31*, 162–172. doi:10.2307/213170

Neff, L. A., & Karney, B. R. (2004). How does context affect intimate relationships? Linking external stress and cognitive processes within marriage. *Personality and Social Psychology Bulletin, 30*, 134–148. doi:10.1177/0146167203255984

Ooms, T., Bouchet, S., & Parke, M. (2004). *Beyond marriage licenses: Efforts in states to strengthen marriage and two-parent families. A state-by-state snapshot.* Retrieved from http://www.aecf.org/upload/publicationfiles/beyond_marr.pdf

Presser, H. B., & Cox, A. G. (1997). The work schedules of low-educated American women and welfare reform. *Monthly Labor Review, 120*, 25–34.

Rogers, S. J., & DeBoer, D. D. (2001). Changes in wives' income: Effects on marital happiness, psychological well-being, and the risk of divorce. *Journal of Marriage and Family, 63*, 458–472. doi:10.2307/3654605

SASInstitute. (2001). SAS system (version 8.01). Cary, NC: Author.

Schramm, D. G., & Harris, V. W. (2011). Marital quality and income: An examination of the influence of government assistance. *Journal of Family and Economic Issues, 32*, 437–448. doi:10.1007/s10834-010-9212-5

Shipler, D. K. (2008). *The working poor: Invisible in America*. New York: Knopf.

Spence, S. H., Najman, J. M., Bor, W., O'Callaghan, M., & Williams, G. M. (2002). Maternal anxiety and depression, poverty and marital relationship factors during early childhood as predictors of anxiety and depressive symptoms in adolescence. *Journal of Child Psychology & Psychiatry, 43*, 457–470. doi:10.1111/1469-7610.00037

Trail, T. E., Goff, P. A., Bradbury, T. N., & Karney, B. R. (2011). The costs of racism for marriage: How racial discrimination hurts, and ethnic identity protects, newlywed marriages among Latinos. *Personality and Social Psychology Bulletin, 38*, 454–465. doi:10.1177/0146167211429450

Trail, T. E., & Karney, B. R. (2012). What's (not) wrong with low-income marriages? *Journal of Marriage and Family, 74*, 413–427. doi:10.1111/j.1741-3737.2012.00977.x

Twenge, J. M., Campbell, W. K., & Foster, C. A. (2003). Parenthood and marital satisfaction: A meta-analytic review. *Journal of Marriage and Family, 65*, 574–583. doi:10.1111/j.1741-3737.2003.00574.x

U.S. Census Bureau. (2002). *Summary population and housing characteristics: California*. Washington, DC: U.S. Government Printing Office.

U.S. Census Bureau. (2013). *Income, poverty, and health insurance coverage in the United States: 2012*. Washington, DC: U.S. Government Printing Office.

VanLaningham, J., Johnson, D. R., & Amato, P. (2001). Marital happiness, marital duration, and the U-shaped curve: Evidence from a five-wave panel study. *Social Forces, 78*, 1313–1341. doi:10.1353/sof.2001.0055

White, L., & Rogers, S. J. (2000). Economic circumstances and family outcomes: A review of the 1990s. *Journal of Marriage and the Family, 62*, 1035–1051. doi:10.1111/j.1741-3737.2000.01035.x

Whitton, S. W., Rhoades, G. K., & Whisman, M. A. (2014). Fluctuation in relationship quality over time and individual well-being main, mediated, and moderated effects. *Personality and Social Psychology Bulletin, 40*, 858–871. doi:10.1177/0146167214528988

Williamson, H. C., Karney, B. R., & Bradbury, T. N. (2013). Financial strain and stressful events predict newlyweds' negative communication independent of relationship satisfaction. *Journal of Family Psychology, 27*, 65–75. doi:10.1037/a0031104