Research Article

The Implications of Sociosexuality for Marital Satisfaction and Dissolution

Juliana E. French iD, Emma E. Altgelt, and
Andrea L. Meltzer
Department of Psychology, Florida State University

Abstract

Most people will get married, and maintaining a quality marriage is critical to well-being. Nevertheless, many intimates experience declines in marital satisfaction, and a substantial proportion of marriages dissolve. Drawing from functional perspectives of human mating, we argue that one source of marital discord and dissolution is that people vary in their motivations to pursue uncommitted sex—that is, sociosexuality. We examined this possibility using data from two independent longitudinal studies of 204 newlywed couples and used actor–partner interdependence growth-curve modeling. Results demonstrated that relatively unrestricted (vs. restricted) sociosexuality was associated with an increased probability of relationship dissolution through declines in marital satisfaction over time. Additional exploratory analyses provided preliminary evidence suggesting that frequent sex, high sexual satisfaction, and low stress weaken this association. These primary findings suggest that strong motives to pursue uncommitted sex may interfere with marital success, and the latter findings suggest potential buffers for these negative outcomes.

Most people get married, and doing so offers copious benefits. Not only is marriage associated with reproductive benefits (Trivers, 1972) as well as social and financial benefits (see Finkel, Hui, Carswell, & Larson, 2014), but successful marriages also play a critical role in people's psychological and physical health (Holt-Lunstad, Smith, & Layton, 2010; Liu & Umberson, 2008; Robles, Slatcher, Trombello, & McGinn, 2014). In fact, whereas merely being married reduces mortality risk (Holt-Lunstad et al., 2010), relationship dissolution is associated with significant health risks (Liu & Umberson, 2008).

Nevertheless, maintaining a successful marriage is notoriously difficult. Marital satisfaction declines over time, on average (see Meltzer, McNulty, Jackson, & Karney, 2014), and divorce rates in numerous industrialized countries hover between 30% and 50% (Amato & James, 2010). Given that marriage offers many benefits, and divorce is associated with critical costs, why are marriages so difficult to maintain? The answer to this question is certainly complicated and likely multifaceted,

but our goal in the current work was to draw on functional perspectives of mating to suggest that some marriages may be more vulnerable than others.

Throughout evolutionary history, ancestral humans have maintained pair bonds that helped to promote offspring survival (Trivers, 1972). Nevertheless, there were also benefits associated with noncommittal mating, such as procuring high-quality genes for offspring. Human mating systems thus evolved to be flexible and somewhat mixed (Gangestad & Simpson, 2000). That is, although modern humans generally desire stable long-term relationships such as marriage, they are also motivated to pursue sex without commitment (e.g., one-night stands, extra-pair copulations). There is notable variability, however, in people's motivations to pursue uncommitted sex (i.e., their sociosexual orientations;

Corresponding Author:
Juliana E. French, Florida State University, Department of Psychology, 1107 W. Call St., Tallahassee, FL 32306
E-mail: french@psy.fsu.edu

Simpson & Gangestad, 1991), which range on a continuum from restricted sociosexuality (i.e., low motivations to pursue uncommitted sex) to unrestricted sociosexuality (i.e., high motivations to pursue uncommitted sex).

Nevertheless, given people's general tendency to pursue long-term relationships, the numerous incentives to marry, and high U.S. marriage rates, it is likely that even relatively unrestricted individuals get married (see Jackson & Kirkpatrick, 2007). How do such relationships fare? There are theoretical reasons to expect that they may suffer. According to the vulnerability-stress-adaptation model (Karney & Bradbury, 1995), a prominent model from the close-relationships literature, people's enduring vulnerabilities contribute to dyadic processes and subsequent relationship development. Integrating this model with prior work on sociosexuality suggests that unrestricted sociosexuality may be a particularly debilitating enduring vulnerability that can render established long-term relationships such as marriage vulnerable to declines in satisfaction and stability (see Penke & Asendorpf, 2008). Consistent with this possibility, research has shown that unrestricted individuals report lower commitment (Simpson & Gangestad, 1991), fewer relationship-maintenance motivations (Jones, 1998), decreased sexual interest in their partners (Hebl & Kashy, 1995), increased attention to attractive extra-pair partners (McNulty, Meltzer, Makhanova, & Maner, 2018), and more frequent infidelity (Penke & Asendorpf, 2008). Together, the extant literature suggests that unrestricted sociosexuality may undermine processes inherent to long-term relationship maintenance that negatively impact intimates' relationship satisfaction and long-term stability.

Indeed, we are aware of a few studies that have examined this possibility (Penke & Asendorpf, 2008; Rodrigues, Lopes, & Smith, 2017; Simpson, 1987; Webster et al., 2015), and each suggest that unrestricted sociosexuality is associated with relationship distress. Nevertheless, none of these studies exclusively examined married individuals, who can experience categorically different outcomes from those of dating individuals (see Russell, Baker, & McNulty, 2013). Likewise, none of these studies examined the impact of sociosexuality on relationship development—perhaps the key outcome in relationship research (see Karney & Bradbury, 1995). As other authors have argued (McNulty, 2016), variables can differ dramatically in their association with marital outcomes concurrently versus over time. Moreover, only two of these studies (Penke & Asendorpf, 2008; Webster et al., 2015) examined the dyadic effects of sociosexuality; given the interdependence inherent to marriage (Kelley & Thibaut, 1978), and given that intimates with unrestricted partners may worry more about their partners' infidelity, research would ideally test the extent to which intimates' own as well as their partners' sociosexuality is associated with their marital satisfaction and dissolution.

Finally, no research, at least to our knowledge, has explored the possibility that some factors may buffer people from any negative effects of their own or their partners' sociosexuality. Nevertheless, identifying such protective factors can have important theoretical as well as practical implications. Consistent with the idea that psychological traits are not inherently positive or negative (see McNulty & Fincham, 2012), it is possible that unrestricted individuals can maintain satisfying marriages in certain contexts. Most notably, given such individuals' proclivity toward sex (Belsky, Steinberg, & Draper, 1991) and the role of sex in pair bonding (Meltzer et al., 2017), having an active or satisfying sexual relationship may provide the gratification necessary to buffer unrestricted individuals from negative marital outcomes. Additionally, in line with the central tenet of the vulnerability-stress-adaptation model of marriage (Karney & Bradbury, 1995) that stress exacerbates the effects of enduring vulnerabilities on relationship outcomes, maintaining low levels of stress may minimize the negative impact of unrestricted sociosexuality.

We had two goals in the current research: (a) examine the implications of sociosexuality for marital satisfaction and dissolution and (b) explore potential boundary conditions. To this end, we pooled the data from two independent longitudinal studies of newlywed couples. Our primary hypothesis was that intimates' own and their partners' sociosexuality would predict their marital-satisfaction trajectories, which would ultimately predict dissolution. Notably, these associations could emerge in two ways. First, own or partner sociosexuality may be associated with intimates' initial marital satisfaction, which may ultimately predict dissolution. Second, own or partner sociosexuality may additionally or alternatively be associated with intimates' changes in marital satisfaction over time, which may ultimately predict dissolution. We made no a priori predictions regarding whether these associations would be driven by intimates' own or their partners' sociosexuality or whether such associations would emerge on the intercepts or slopes. We additionally explored whether intimates' sexual frequency, sexual satisfaction, and stress moderated these associations.

Method

Participants

Participants in Study 1 were 226 newlywed spouses (composing 113 heterosexual couples) from northern Texas who were in their first marriage; participants in

Study 2 were 208 newlywed spouses (composing 104 heterosexual couples and 5 lesbian couples) from northern Florida. We initially planned for each study's recruitment to last 12 months but extended recruitment 1 additional month in Study 1 and 3 additional months in Study 2 to increase sample size. We excluded 6 couples in which one partner did not complete the sociosexuality measure at baseline, 2 couples in which neither partner completed the sociosexuality measure at baseline, and the 5 lesbian couples (because of constraints imposed by our data-analytic strategy). Thus, the final sample included 408 individuals (composing 204 couples). A sensitivity analysis that accounted for repeated assessments (for husbands, intraclass correlation coefficient, or ICC = .48; for wives, ICC = .56; see Snijders & Bosker, 2011) indicated that our effective sample size of 613 participants allowed us to detect an effect (effect-size r) as small as .11 with a power of .80, which was notably smaller than the effects of own and partner sociosexuality demonstrated here (effect-size rs = .18 and .27, respectively).

We recruited participants by sending invitations to couples in the area who had recently applied for marriage licenses in the county of the study location (Study 1) and via flyers and Facebook advertisements (Study 2). As part of the broader goals of the studies, eligibility required that all participants (a) had been married for fewer than 4 months in Study 1 and 3 months in Study 2, (b) were at least 18 years of age, and (c) spoke English (to ensure comprehension of the questionnaires). Given its broader aims, Study 1 included the additional criterion that both members of the couple were in their first marriage.

At baseline in Study 1, husbands' and wives' mean ages were 28.14 years (SD = 5.59) and 26.83 years (SD = 4.76), respectively, and the mean years of education they had completed were 15.28 (SD = 2.77) and 15.74 (SD = 3.15), respectively. Seventy-one percent of husbands and 51% of wives were employed full time; 12% of husbands and wives were full-time students. These husbands and wives reported a mean personal income of \$43,257 (SD = \$47,737) and \$33,731 (SD = \$36,348) per year, respectively. The sample was diverse; 48% of husbands and 49% of wives self-identified as Caucasian, 28% of husbands and 26% of wives self-identified as African American, 17% of husbands and 16% of wives self-identified as Latinx, 2% of husbands and 5% of wives self-identified as Asian, and 5% of husbands and 4% of wives self-identified as another race.

At baseline in Study 2, husbands' and wives' mean ages were 32.04 years (SD = 10.86) and 30.37 years (SD = 9.83), respectively, and the mean years of education they had completed were 15.88 (SD = 2.92) and 16.02 (SD = 2.57), respectively. Sixty-five percent of husbands and 57% of wives were employed full time; 16% of husbands and 22% of wives were full-time students. These husbands and wives reported a mean personal income of \$34,586 (SD = \$23,282) and \$32,469 (SD = \$45,640) per year, respectively. Most (78% of husbands and 75% of wives) self-identified as Caucasian.

Procedure

After enrolling in each study, participants completed a battery of questionnaires via Qualtrics.com or through the mail. These questionnaires included a consent form approved by the local human-subjects review boards; measures assessing sociosexuality, global marital satisfaction, sexual frequency, sexual satisfaction, stress, and numerous theoretically relevant covariates (i.e., attachment insecurity, depression, relationship length, whether the couple had children at baseline, neuroticism); additional measures beyond the scope of the current analyses; and a letter instructing intimates to complete their questionnaires independently of one another. Couples in both studies received \$100 for completing these baseline questionnaires.

At approximately 6-month (Study 1) and 4-month (Study 2) intervals subsequent to baseline, we recontacted couples and sent them questionnaires that included measures of global marital satisfaction, marital status, sexual frequency, sexual satisfaction, stress, and covariates; additional measures beyond the scope of the current analyses; and a letter reminding intimates to complete their questionnaires independently. After completing each assessment, couples received a check (\$30 in Study 1; \$25 in Study 2) for their participation. The current analyses are based on up to eight assessments (baseline and seven follow-ups) in Study 1, which spanned the first 3.5 years of marriage, and up to four assessments (baseline and three follow-ups) in Study 2, which spanned the first year of marriage (360 participants, or 88.2%, completed at least one follow-up assessment). Nevertheless, because the analyses produced estimates for every individual in the sample—even individuals with missing data—all participants were included in all analyses. Given the parallel designs of both studies, we analyzed them simultaneously but controlled and tested for idiosyncratic differences between studies that were due to broader study aims and constraints on the investigator (coded −1 for Study 1 and 1 for Study 2).

Measures

Sociosexuality. We assessed sociosexuality at baseline using a version of the Revised Sociosexual Orientation

Inventory (Penke & Asendorpf, 2008), which is a nine-item measure assessing people's attitudes, desires, and behaviors regarding uncommitted sex. Notably, we modified this measure to assess individuals' sociosexual attitudes and behaviors prior to marriage (but we assessed individuals' current sociosexual desires, consistent with the original measure). Specifically, we assessed intimates' premarital sociosexual attitudes by asking them to indicate their agreement with the following three statements: "Prior to getting married, I believed that sex without love is OK," "Prior to getting married, I could imagine myself being comfortable and enjoying 'casual sex' with different partners," and "Prior to getting married, I did not want to have sex with a person until I was sure that we would have a long-term, serious relationship." Responses were made on a 9-point scale ranging from 1 (*strongly disagree*) to 9 (*strongly agree*).

We assessed intimates' baseline sociosexual desires by asking them to respond to the following three questions: "How often do you fantasize about having sex with someone other than your spouse?" "How often do you experience sexual arousal when you are in contact with someone other than your spouse?" and "In everyday life, how often do you have spontaneous fantasies about having sex with someone you have just met?" Responses were made on a 9-point scale ranging from 1 (*never*) to 9 (*at least once a day*).

We assessed intimates' premarital sociosexual behaviors by asking them to respond to the following three open-ended questions: "With how many different partners did you have sex during the year prior to entering into a relationship with your spouse?" "With how many partners have you had sexual intercourse without having an interest in a long-term committed relationship with this person?" and "With how many different partners have you had sex on *one and only one* occasion?"

We computed participants' global sociosexuality using the guidelines suggested by Penke and Asendorpf (2008); higher scores reflect a greater degree of unrestricted sociosexuality and thus an increased motivation to engage in uncommitted sex. Internal consistency was adequate (in both studies, husbands' and wives' αs $\geq$ .83).

Marital satisfaction. We assessed intimates' marital satisfaction at all assessments using three measures. The first measure was the Quality Marriage Index (Norton, 1983), which is a six-item measure assessing intimates' agreement with general statements about their marriage. Five items require intimates to respond according to a 7-point scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*), and one item requires intimates to respond according to a 10-point scale ranging from 1 (*very unhappy*) to 10 (*perfectly happy*). The second measure was a version of the semantic differential (Osgood, Suci, & Tannenbaum, 1957), which requires intimates to rate their perceptions of their

marriage on 7-point scales between 15 pairs of opposing adjectives (e.g., dissatisfied–satisfied, good–bad). The third measure was the Kansas Marital Satisfaction Scale (Schumm et al., 1986), which is a three-item instrument assessing intimates' agreement with general statements regarding the quality of their marriage; responses are made on a 7-point scale ranging from 1 (*not at all satisfied*) to 7 (*extremely satisfied*).

For each measure, we reverse-scored appropriate items and then averaged across all items; high scores reflect high satisfaction. Internal consistency for each measure was high (in both studies and across all assessments, husbands' and wives' αs $\geq$ .87). Not surprisingly, these measures were highly correlated (all rs $\geq$ .81). Thus, to be most comprehensive and to minimize the likelihood that results are specific to one measure, we created a composite satisfaction index for each participant by standardizing their scores across all assessments and averaging those standardized scores.

Marital dissolution. We assessed marital dissolution in two ways. First, at each follow-up assessment, intimates indicated their current marital status by responding to the question, "Which of the following best describes your current marital status?" using these response options (participants were permitted to select more than one option): "married," "separated," "in the process of a divorce," "divorced," and "widowed." Second, to better capture the marital status of couples who failed to complete follow-up assessments, we supplemented these self-reports in Study 1 by obtaining official divorce records through the publicly available database of the Dallas County Clerk. We considered a couple to be in the process of dissolution or divorced if (a) either couple member reported that he or she was separated, in the process of a divorce, or divorced on at least one of their follow-up assessments or (b) we found an official divorce record for the couple (in Study 1). Both couple members of one couple continued to complete questionnaires after their official divorce date (as reported in the county-clerk database); thus, we excluded a priori from our analyses any data obtained after this date. Given that we did not have a precise measure of the timing of dissolution and thus could not compute a time-varying estimate of dissolution, we formed a time-invariant dummy code to indicate whether the marriage had dissolved (0 = married, 1 = dissolved). A total of 21 (10%) couples dissolved (Study 1: n = 15; Study 2: n = 6). It is worth noting that some couples who failed to complete follow-up assessments may have separated or divorced without reporting it; thus, we may be underestimating the indirect implications of sociosexuality for marital dissolution in this study—that is, these data likely represent a relatively conservative test of our hypotheses.

Frequency of sex. We assessed frequency of sex at baseline and all follow-ups using a single item that asked intimates to estimate the number of times they engaged in sex with their partner during the prior 30 days. To increase the accuracy of all reports, we averaged across couple members' reports. Two couples failed to complete this measure at all assessments.

Sexual satisfaction. We assessed intimates' sexual satisfaction at baseline and all follow-ups using the Index of Sexual Satisfaction (Hudson, 1998), which asks intimates to indicate the frequency with which 25 statements describe their sexual relationship with their partner; responses are made on a 7-point scale ranging from 1 (*none of the time*) to 7 (*all of the time*). At each assessment, we averaged intimates' responses to these items to form an index of sexual satisfaction; higher scores reflect higher sexual satisfaction. Internal consistency was high (in both studies and across all assessments, husbands' and wives' αs ≥ .91). One husband failed to complete this measure at all assessments.

Stress. We assessed intimates' chronic life stress at baseline in both studies, the first five follow-up assessments in Study 1, and the 1-year follow-up assessment in Study 2 using a revised measure (see Neff & Karney, 2007) of the UCLA Life Stress Interview (Hammen et al., 1987). Specifically, intimates reported the extent to which they experienced stress across 12 life domains (e.g., health, finances, work) during the past 6 months (Study 1) or 1 year (Study 2) using a 9-point scale ranging from 1 (*not at all stressful*) to 9 (*extremely stressful*). We excluded marital-related stress by asking intimates to first report marital stress and then the other 12 life domains (notably, we omitted ratings of marital-related stress from all analyses). At each assessment, we averaged intimates' responses to all items to form an index of chronic stress; higher scores reflect higher stress. One husband and one wife failed to complete all assessments of this measure.

Control variables. To account for bias due to attrition, we computed the proportion of total assessments that each intimate completed and controlled for this in all analyses (as other scholars have done; e.g., Scott, Post, Stanley, Markman, & Rhoades, 2017). Moreover, to ensure that any associations between intimates' sociosexuality, trajectories of marital satisfaction, and marital dissolution emerge independently of other related factors, we assessed and controlled several theoretically relevant covariates in a supplemental analysis: attachment insecurity, depression, relationship length, whether the couple had children at baseline, and neuroticism. Given that prior research has demonstrated that people with higher (vs. lower) attachment insecurity tend to have more unrestricted sociosexual orientations (e.g., Schmitt, 2005) and lower marital satisfaction, we assessed attachment avoidance and attachment anxiety (using the 36-item Experiences in Close Relationships Scale; Brennan, Clark, & Shaver, 1998) at baseline; two wives failed to complete the attachment-avoidance items of this measure.

Additionally, given that marital-satisfaction trajectories are influenced by a wide range of factors, we assessed numerous other relational- and individual-level factors that are associated with marital satisfaction, including depression (measured at all assessments using the Center for Epidemiological Studies Depression Scale; Radloff, 1977; one husband failed to complete all assessments of this measure), relationship length prior to marriage (assessed at baseline and measured in months; one husband and three wives failed to complete this measure), whether the couple had children when they began the study (coded −1 for no children and 1 for children), and neuroticism (assessed at baseline in Study 1 using the 60-item neuroticism subscale of the International Personality Item Pool; Goldberg, 1999; assessed at baseline in Study 2 using the 10-item neuroticism subscale of the International Personality Item Pool; three husbands and six wives failed to complete this measure).

Results

To maximize statistical power, we combined the data from Study 1 and Study 2 and analyzed them simultaneously. For the results of each study separately, see the Supplemental Material available online.

Descriptive statistics and preliminary analyses

Before testing our key predictions, we examined the descriptive statistics for and bivariate correlations among our key variables and all covariates (see Table 1). A few results are worth highlighting. First, intimates on average reported relatively restricted sociosexual orientations, as determined by one-sample *t* tests that compared husbands' and wives' average scores against the midpoint (4.5) of the scale—husbands: $t(203) = -8.05$, $p < .001$; wives: $t(203) = -16.25$, $p < .001$. Nevertheless, there was substantial variability; scores ranged from restricted (minimum = 1.00 for both husbands and wives) to relatively unrestricted (husbands' maximum = 7.89; wives' maximum = 7.11), providing support for the idea that relatively unrestricted individuals do indeed get married. Consistent with other research (e.g., Penke & Asendorpf, 2008), results showed that on average, husbands were relatively more unrestricted than were wives, $t(203) = 6.31$, $p < .001$.

Table 1. Descriptive Statistics and Zero-Order Correlations for All Variables

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Actor's sociosexuality	—	.45***	-.11	-.17*	-.16*	.04	.03	.12†	.06	.11	.06	.03	-.01
2. Partners' sociosexuality	.45***	—	-.11	-.11	-.15*	.01	-.01	.09	.13†	.09	.10	.00	-.06
3. Mean frequency of sex	-.11	-.11	—	.12†	.33***	-.10	-.08	-.00	-.06	-.02	-.20**	.07	-.17*
4. Mean marital satisfaction	-.24**	-.10	.09	**.51*****	.51***	-.31***	-.51***	-.11	-.41***	-.38***	-.08	-.36**	.18
5. Mean sexual satisfaction	-.28***	-.07	.31***	.51***	**.55*****	-.22**	-.43***	-.04	-.24**	-.33***	-.08	-.02	-.01
6. Mean stress	.13†	.07	-.15*	-.41***	-.33***	**.39*****	.36***	.35***	.40***	.33***	.05	.10	-.03
7. Mean depression	.13†	.09	-.16†	-.37***	-.48***	.48***	**.36*****	.32***	.36***	.27***	.09	.09	-.13†
8. Neuroticism	.03	.05	-.04	-.16*	-.24***	.41***	.55***	**-.07**	.40***	.07	.08	-.06	.03
9. Attachment anxiety	.16*	.16*	.01	-.42***	-.32***	.37***	.42***	.38***	**.24****	.46***	-.07	.29***	-.11
10. Attachment avoidance	.19**	.03	.11	-.50***	-.33***	.37***	.28***	.26***	.59***	**.17***	-.03	.26***	-.28***
11. Relationship length	.13†	.08	-.20**	-.01**	-.19**	.12†	.22**	.01	-.08	.03	**.96*****	.02	-.04
12. Children at marriage	-.04	-.02	.05	-.22**	.08	.10	.08	-.10	.10	.06	-.02	**.79*****	-.25***
13. Attrition	-.11	-.06	-.13	.19**	-.06	-.13*	.01	-.12†	-.15*	-.11	.01	-.23**	**.92*****
						Husbands							
M	3.54_a	2.79_a	9.45	-0.01	5.78	3.46_a	0.56_a	2.66_a	2.30	2.26	43.05	0.25	0.73_a
SD	1.71	1.51	10.17	0.81	0.81	1.34	0.38	0.62	1.17	0.99	35.76	0.44	0.33
n	204	204	202	204	203	203	203	201	204	204	203	204	204
						Wives							
M	2.79_b	3.54_b	9.45	-0.01	5.72	3.71_b	0.62_b	2.98_b	2.46	2.30	43.58	0.25	0.77_b
SD	1.51	1.71	10.17	0.91	0.78	1.24	0.39	0.58	1.18	1.00	36.49	0.43	0.32
n	204	204	202	204	204	204	204	198	204	202	201	204	204

Note: Husbands' correlations appear below the diagonal; wives' correlations appear above the diagonal. Correlations between spouses appear in bold along the diagonal. For means, different subscripts in the same column denote that means are sex-differentiated ($p < .05$). Given that marital satisfaction, frequency of sex, sexual satisfaction, stress, and depression were repeated measures, we computed within-persons means that aggregated across all assessments for each spouse. Children at marriage was dummy coded 0 for no children and 1 for children.
†$p < .10$. *$p < .05$. **$p < .01$. ***$p < .001$.

6

Moreover, both couple members' sociosexual orientations were moderately correlated ($r = .45$, $p < .001$), consistent with theories of assortative mating and other research (e.g., Simpson & Gangestad, 1991).

Second, intimates' sociosexuality was negatively associated with their average (across all assessments) marital and sexual satisfaction; relatively unrestricted (vs. restricted) intimates reported lower marital and sexual satisfaction. Finally, supporting our theoretically derived decision to control for depression, attachment insecurity, neuroticism, relationship length, and children in supplemental analyses, results showed that husbands' sociosexuality was positively associated with their depression and attachment insecurity, whereas wives' sociosexuality was positively associated with their neuroticism; in addition, husbands' average marital satisfaction was negatively associated with all covariates, whereas wives' average marital satisfaction was negatively associated with all covariates except neuroticism and relationship length.

Examining intimates' trajectories of marital satisfaction

To account for the nested nature of these data (repeated assessments were nested within individuals), we estimated a mixed model in SPSS Version 23. Specifically, we estimated two-level cross models in which (a) intimates were nested within dyads and (b) intimates and assessments were crossed to account for the fact that both couple members completed all assessments at approximately the same time (see Kenny, Kashy, & Cook, 2006). Before testing our key predictions, we first examined intimates' marital-satisfaction trajectories by regressing marital satisfaction onto husbands' and wives' intercept, time, and time^2 estimates. In this analysis, time represented year of assessment, and baseline was coded as 0 (so that the intercepts represented husbands' and wives' initial marital satisfaction). In addition, we allowed husbands' and wives' intercept and time estimates to vary randomly (direct tests confirmed that this was the best-fitting model; for more information regarding these model comparisons, see the Supplemental Material). Moreover, we controlled for study and attrition (standardized) to account for idiosyncratic differences across studies as well as between intimates who completed more versus fewer follow-up assessments.

Consistent with other studies of newlywed couples (see Karney & Bradbury, 1995; Meltzer et al., 2014), results demonstrated that, on average, intimates reported relatively high levels of initial marital satisfaction, $\pi = 0.13$, $SE = 0.05$, which declined initially, $\pi = -0.35$, 95% confidence interval (CI) = [−0.46, −0.23], $t(501.04) = -5.90$, $p < .001$, effect-size $r = .25$, before

leveling off over time (as indicated by a significant, positive quadratic term), $\pi = 0.06$, 95% CI = [0.03, 0.10], $t(655.66) = 3.74$, $p < .001$, effect-size $r = .14$. A direct test revealed that husbands' and wives' estimates did not significantly differ (all $ps \geq .135$); thus, we constrained the pooled estimates to be equal across sex in all subsequent analyses. Supplemental analyses demonstrated that (a) this constrained model fitted the data better than a constrained model that did not include a quadratic estimate of time, $\chi^2(1) = 9.29$, $p = .002$ (and thus we retained this quadratic estimate in all subsequent models) and (b) results remained unchanged when we no longer controlled for attrition.

Do relatively unrestricted (vs. restricted) intimates experience poorer marital-satisfaction trajectories and an increased likelihood of marital dissolution?

We predicted that unrestricted sociosexuality would be associated with poorer marital-satisfaction trajectories, which would in turn be associated with a greater likelihood of marital dissolution. To test this indirect effect, we followed the procedures outlined by Tofighi and MacKinnon (2011), which required two analyses. The first analysis examined the association between the predictors (own and partner sociosexuality) and the putative mediator (intimates' marital-satisfaction trajectories). The second analysis examined the association between the putative mediator (intimates' marital-satisfaction trajectories) and the outcome variable (marital dissolution), controlling for the predictors. We then multiplied these associations to estimate the indirect effects of own and partner sociosexuality on marital dissolution through intimates' marital-satisfaction trajectories.

Testing the association between intimates' sociosexuality and marital-satisfaction trajectories. Although theory and corresponding evidence (e.g., Hebl & Kashy, 1995; Jones, 1998; McNulty et al., 2018; Penke & Asendorpf, 2008; Simpson & Gangestad, 1991) suggest that unrestricted intimates and intimates with unrestricted spouses experience poorer satisfaction trajectories, we made no strong predictions regarding whether such associations would emerge on initial levels of intimates' marital satisfaction or changes in intimates' marital satisfaction. To test these associations, we reestimated the previous model but additionally included actor and partner sociosexuality (standardized) as well as each interaction with time and time^2. We additionally tested whether the effects significantly differed across husbands and wives by modeling the main and interaction effects of sex (−1 = men, 1 = women); none of these effects differed (all $ps \geq .203$), so we constrained the pooled estimates to be equal across sex. The results of this

Table 2. Associations Between Actors' and Partners' Sociosexuality and Actors' Trajectories of Marital Satisfaction

Variable	β	95% CI	*df*	Effect-size *r*
Intercept	0.133**	[0.041, 0.226]	247.55	
Study	−0.051	[−0.149, 0.047]	177.88	.08
Attrition	−0.051	[−0.149, 0.047]	177.88	.08
Time	−0.364***	[−0.483, −0.245]	609.73	.24
Time^2	0.062***	[0.028, 0.096]	640.54	.14
Actors' sociosexuality	−0.128***	[−0.198, −0.058]	372.34	.18
Partners' sociosexuality	−0.022	[−0.091, 0.046]	331.22	.04
Time × Actors' Sociosexuality	−0.003	[−0.044, 0.037]	39.32	.03
Time × Partners' Sociosexuality	−0.058*	[−0.106, −0.010]	71.88	.27

Note: CI = confidence interval.
*p < .05. **p < .01. ***p < .001.

constrained analysis revealed that the highest order interactions involving sociosexuality—the Actor Sociosexuality × Time^2 interaction and the Partner Sociosexuality × Time^2 interaction—emerged as nonsignificant (ps = .534 and .376, respectively); thus, we removed these highest order interactions (although we continued to control for time^2).

The results of this modified analysis are presented in Table 2 and depicted in Figure 1. Two notable findings emerged, both of which were consistent with the first criterion necessary for establishing mediation. First, actors' (but not partners') sociosexuality was negatively associated with their initial marital satisfaction; relatively unrestricted spouses began their marriages less satisfied than did relatively restricted spouses. Second, partners' (but not actors') sociosexuality was negatively associated with linear changes in marital satisfaction; spouses with relatively unrestricted partners experienced steeper declines in satisfaction over time than did spouses with

relatively restricted partners.[1] Three supplemental analyses demonstrated that (a) neither of these effects was moderated by study (ps = .218 and .820, respectively), (b) both effects continued to emerge when we no longer controlled for attrition (ps < .001 and .014, respectively), and (c) all effects continued to emerge when we controlled for all other covariates (i.e., depression, neuroticism, attachment insecurity, relationship length, and whether the couple had children at baseline) and in a completely uncontrolled analysis (i.e., no longer controlling for time^2, study, or attrition; see the robustness analyses in the Supplemental Material).

Testing the association between intimates' marital-satisfaction trajectories and marital dissolution.
Although we predicted that intimates' marital-satisfaction trajectories would be associated with whether they dissolved their marriages prior to the end of each study (independent of
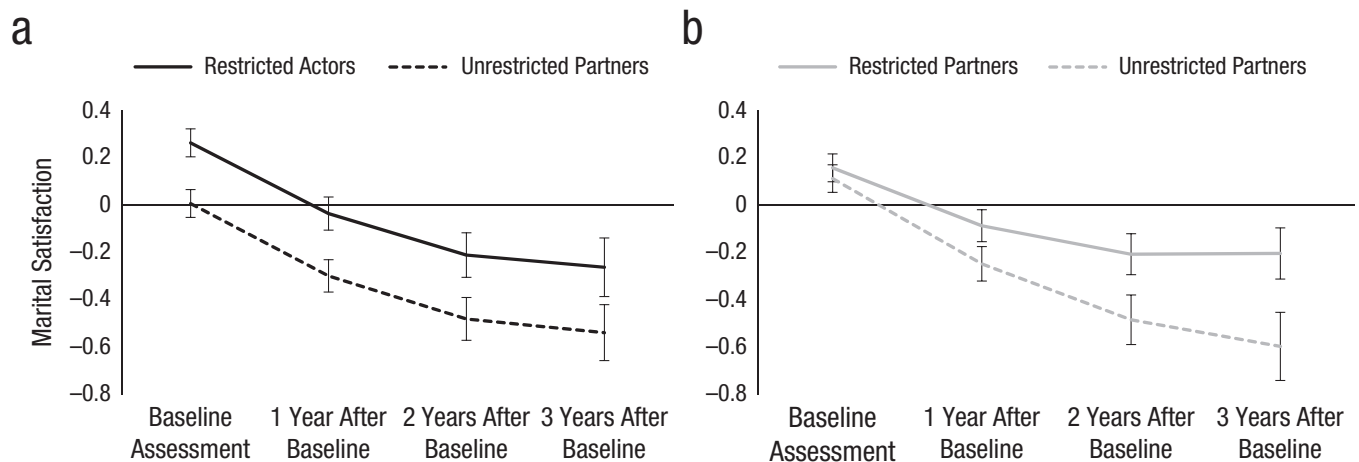

Fig. 1. Association between actors' trajectories of marital satisfaction and (a) actors' sociosexuality and (b) partners' sociosexuality. Actor and partner effects are independent of one another. Marital satisfaction is standardized; thus, zero represents average satisfaction across all spouses and all assessments. Error bars represent standard errors.

Table 3. Associations Between Marital-Satisfaction Trajectories and Marital Dissolution, Controlling for Actors' and Partners' Sociosexuality

Variable	β	95% CI	df	Effect-size r
Intercept	−2.63	[−2.95, −2.31]	202	
Study	−0.11	[−0.54, 0.32]	202	.04
Attrition	−1.62**	[−2.71, −0.53]	198	.21
Actors' sociosexuality	0.01	[−0.24, 0.25]	198	.00
Partners' sociosexuality	−0.07	[−0.32, 0.17]	198	.04
Actors' initial satisfaction	−0.11	[−0.99, 0.77]	198	.02
Actors' linear changes in satisfaction	−2.85**	[−4.73, −0.96]	198	.21
Actors' quadratic changes in satisfaction	−7.91*	[−14.85, −0.96]	198	.16

Note: CI = confidence interval.
*$p < .05$. **$p < .01$.

the association between actors' and partners' sociosexuality and marital dissolution), we made no a priori predictions regarding whether marital dissolution would be associated with initial levels of intimates' marital satisfaction or changes in intimates' marital satisfaction. To examine these associations, we used HLM software Version 7.03 (Raudenbush, Bryk, Cheong, & Congdon, 2011; because of the dichotomous nature of our outcome) to regress marital dissolution onto between-persons differences in intimates' marital-satisfaction trajectories (grand-mean centered) in the first level of a two-level model, controlling for (a) actors' and partners' sociosexuality as well as attrition (grand-mean centered) at Level 1 and (b) study (uncentered) on the Level 2 intercept. We operationalized intimates' marital-satisfaction trajectories as the empirical Bayes estimates of the within-persons variability in (a) initial satisfaction, (b) linear changes in satisfaction over time, and (c) quadratic changes in satisfaction over time, which we obtained from the residual files formed by estimating husbands' and wives' satisfaction trajectories separately but simultaneously. We controlled the shared variance between husbands and wives in Level 2, allowed the Level 2 intercept to vary randomly, and, because of the dichotomous nature of dissolution, specified a Bernoulli sampling distribution.

The results of this analysis are presented in Table 3. Consistent with the second criterion necessary for establishing mediation, results showed that actors' linear changes in satisfaction (but not initial satisfaction) were negatively associated with marital dissolution when we controlled for actors' and partners' sociosexuality. That is, intimates who experienced steeper (vs. less steep) linear declines in satisfaction over time were more likely to dissolve their marriages by the end of the study. Supplemental analyses demonstrated that these results remained unchanged when we no longer

controlled attrition (for robustness analyses and for analyses showing that the strength of these effects marginally differed across studies, see the Supplemental Material).

Testing the indirect association between partners' sociosexuality and marital dissolution. Using the *RMediation* package in the R programming environment (R Core Team, 2018; Tofighi & MacKinnon, 2011), we estimated the indirect association between partners' sociosexuality and marital dissolution by multiplying (a) the effect of partners' sociosexuality on actors' changes in marital satisfaction (β = −0.06) and (b) the effect of actors' changes in marital satisfaction on marital dissolution (β = −2.85). Results demonstrated that partners' sociosexuality was indirectly associated with marital dissolution through actors' declines in marital satisfaction (β = 0.16, *SE* = 0.09, 95% CI = [0.02, 0.37]; see Fig. 2). That is, intimates whose partners are relatively unrestricted (vs. restricted) experienced steeper declines in marital satisfaction, which were associated with an increased likelihood of marital dissolution.

Are there boundary conditions of the negative implications of relatively unrestricted sociosexuality? We conducted three analyses that explored potential boundary conditions of the associations between both couple members' sociosexuality and intimates' marital-satisfaction trajectories. Specifically, we tested the moderating roles of frequency of sex, sexual satisfaction, and stress. We chose these three potential moderators on the basis of a priori theoretical reasoning (e.g., Belsky et al., 1991; Karney & Bradbury, 1995) and did not test any other moderators. Moreover, we conducted supplemental analyses to examine the robustness of each of these potential moderators (see the robustness analyses in the Supplemental Material).
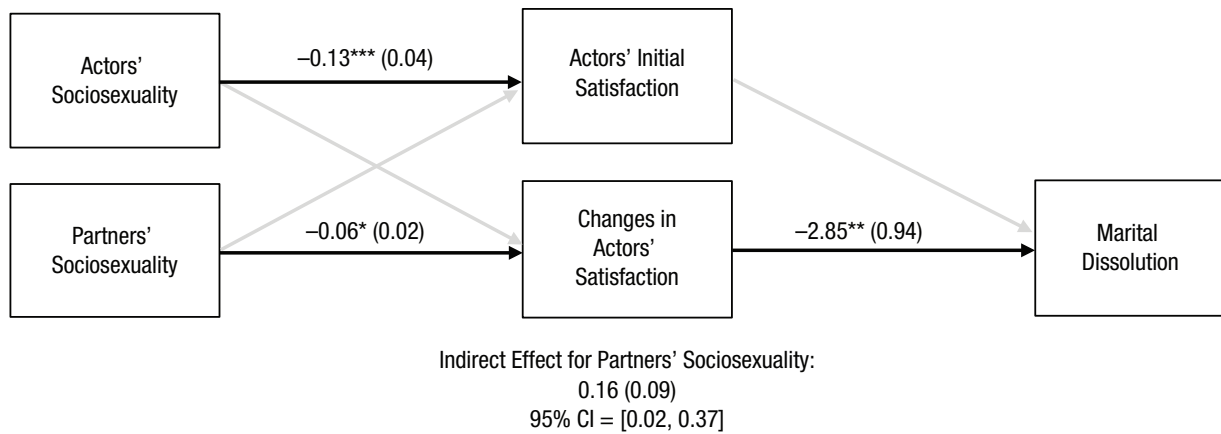
Fig. 2. Associations between actors' and partners' sociosexuality, marital satisfaction, and marital dissolution. Standardized coefficients are given; standard errors are in parentheses. Gray arrows represent nonsignificant associations accounted for by the model; black arrows and asterisks indicate significant paths (*p* < .05, **p* < .01, ***p* < .001). CI = confidence interval.

First, although couples' frequency of sex did not moderate the association between partners' sociosexuality and actors' changes in marital satisfaction over time (*p* = .705), it did marginally moderate the association between actors' sociosexuality and initial marital satisfaction, β = 0.05, 90% CI = [0.01, 0.09], *t*(199.21) = 1.87, *p* = .063, effect-size *r* = .13. Specifically, actors' sociosexuality was negatively associated with their initial marital satisfaction among individuals who engaged in relatively less frequent sex (1 *SD* below the sample mean), β = −0.16, 95% CI = [−0.25, −0.07], *t*(190.64) = −3.47, *p* = .001, effect-size *r* = .24, but not among individuals who engaged in relatively more frequent sex (1 *SD* above the sample mean), β = −0.06, 95% CI = [−0.14, 0.02], *t*(195.91) = −1.56, *p* = .121. In other words, engaging in more (vs. less) frequent sex buffered unrestricted (vs. restricted) intimates from beginning their marriages relatively less satisfied.

Second, sexual satisfaction did not moderate the association between actors' sociosexuality and initial marital satisfaction (*p* = .570), nor did it significantly moderate the association between partners' sociosexuality and changes in actors' marital satisfaction (*p* = .169). Given that this latter interaction trended toward significance, however, we explored the simple effects among intimates who reported relatively low versus high sexual satisfaction. Consistent with our a priori theoretical reasoning, results showed that partner sociosexuality was significantly associated with declines in marital satisfaction among intimates who reported relatively low sexual satisfaction, β = −0.05, 95% CI = [−0.08, −0.01], *t*(139.28) = −2.00, *p* = .048, effect-size *r* = .17, but unassociated among intimates who reported relatively high sexual satisfaction, β = −0.003, 95% CI = [−0.058, 0.052], *t*(201.92) = −0.11, *p* = .910. In other words, being sexually satisfied buffered intimates from experiencing the steeper declines in marital satisfaction

over time that are associated with unrestricted (vs. restricted) partner sociosexuality. Of course, given that the highest order interaction did not emerge as traditionally significant, these simple effects should be interpreted with caution.

Finally, stress did not moderate the association between partners' sociosexuality and changes in actors' marital satisfaction (*p* = .193), but it did significantly moderate the association between actors' sociosexuality and their initial marital satisfaction, β = −0.05, 95% CI = [−0.10, 0.01], *t*(720.37) = −2.27, *p* = .024, effect-size *r* = .08. Specifically, the negative association between actors' sociosexuality and their initial marital satisfaction emerged more strongly among intimates who reported relatively high stress (1 *SD* above the sample mean), β = −0.18, 95% CI = [−0.25, −0.10], *t*(515.93) = −4.50, *p* < .001, effect-size *r* = .19, than among intimates who reported relatively low stress (1 *SD* below the sample mean), β = −0.07, 95% CI = [−0.15, 0.01], *t*(482.24) = −1.66, *p* = .098, effect-size *r* = .08. In other words, low stress buffered unrestricted (vs. restricted) intimates from beginning their marriages relatively less satisfied.

Discussion

Long-term pair bonds such as marriage offer reproductive benefits (Trivers, 1972). Moreover, successful marriages have positive implications for overall psychological and physical health (see Liu & Umberson, 2008; Robles et al., 2014), and these implications have strengthened over time (see Finkel et al., 2014). Not all marriages, however, are successful; intimates, on average, experience declines in marital satisfaction, and many marriages dissolve after only a few years (Karney & Bradbury, 1995). Drawing on functional perspectives and supporting empirical evidence, we predicted that

sociosexually unrestricted (vs. restricted) intimates, or intimates with unrestricted (vs. restricted) partners, would experience poorer relationship-satisfaction trajectories, which would ultimately predict relationship dissolution. We additionally explored whether aspects of the sexual relationship and chronic stress moderated these effects.

Data drawn from two independent, longitudinal studies of newlywed couples provided support for our predictions. Specifically, unrestricted (vs. restricted) intimates began their marriages less satisfied and remained less satisfied over time; although intimates with unrestricted (vs. restricted) partners began their marriages no more or less satisfied, they experienced steeper declines in satisfaction over time.[2] Notably, unrestricted partner sociosexuality indirectly predicted marital dissolution through intimates' declines in marital satisfaction. These results, however, do not suggest that all unrestricted individuals or their long-term partners are doomed for marital failure; preliminary evidence supported the notion that aspects of intimates' sexual relationship with their partner, as well as maintaining low stress, buffered unrestricted intimates from such negative outcomes.

This research advances our understanding of the extent to which individual vulnerabilities can impact relationship outcomes (Karney & Bradbury, 1995) by suggesting that some vulnerabilities—such as unrestricted sociosexuality—may develop in response to selection or cultural pressures to pursue uncommitted sex (for other research demonstrating that correlates of sociosexuality are associated with marital outcomes, see Fincham & May, 2017; Olderbak & Figueredo, 2010). Although humans ultimately desire to maintain stable, committed relationships, the current research suggests that some intimates possess strong motivations to pursue uncommitted sex that can undermine long-term relationship-maintenance processes. Drawing from a life-history perspective (Belsky et al., 1991), we posit that motives to pursue uncommitted sex were particularly adaptive in certain ancestral environments. Indeed, individuals reared in harsh, unpredictable ecologies are more likely to adopt unrestricted sociosexual orientations (McDonald, Donnellan, & Navarrete, 2012), which maximize their reproductive success by procuring sexual partners with high genetic quality (Gangestad & Simpson, 2000). But modern, Western society highly values long-term relationships (Finkel et al., 2014), regardless of ecology. Thus, as modern cultures continue to reward (and as selection pressures continue to favor) such relationships, unrestricted individuals likely pursue long-term relationships (Jackson & Kirkpatrick, 2007), but as the current research suggests, these individuals may struggle to maintain those relationships.

Fortunately, however, we were able to identify several boundary conditions of our effects that suggest that there may be contexts in which unrestricted sociosexuality does not threaten the success of long-term pair-bonds—when couples engage in frequent, satisfying sex and maintain low stress.[3] It is unclear, however, whether the sexual relationship and intimates' global stress levels are themselves causal buffers of the negative association between unrestricted sociosexuality and relationship satisfaction or simply related to other factors that are causal buffers (e.g., matched sexual desire, emotional closeness). On the one hand, it is possible that intimates' sexual satisfaction functions to lessen their worries that their partner will engage in extra-pair, sexual relationships. On the other hand, sexual satisfaction may serve as a proxy of the extent to which intimates are sexually compatible, which itself may function to lessen their worries of such extra-pair relationships. Future research may benefit from directly addressing this issue.

Future research may also benefit from examining additional boundary conditions. For instance, given that hormonal contraceptives suppress women's reproductive drives and their accompanying reproductive-related cognitions and behaviors (Alvergne & Lummaa, 2010), it is possible that unrestricted women who use hormonal contraceptives, or the partners of such women, are similarly buffered from the poor long-term relationship outcomes observed in the current research. Likewise, unrestricted sociosexuality may have very different implications for consensually nonmonogamous intimates; unrestricted intimates who can freely engage in uncommitted sex (vs. those in sexually monogamous marriages) while also reaping the benefits associated with long-term relationships may actually experience more positive relationship outcomes (for related research, see Rodrigues et al., 2017).

Future research may also benefit from examining the psychological and behavioral mechanisms of the effects that emerged here. For example, unrestricted (vs. restricted) intimates may experience poorer long-term relationship outcomes because they may be more likely to engage in infidelity. Indeed, prior research has demonstrated that such individuals are more likely to report being unfaithful in their long-term relationships (e.g., Penke & Asendorpf, 2008), a link that might be explained by increased attention to extra-pair partners (McNulty et al., 2018; for suggestive evidence in the current studies, see the Supplemental Material). Likewise, partners of such individuals might frequently demonstrate jealous relationship-maintenance behaviors such as vigilance and emotional manipulation (Shackelford, Goetz, & Buss, 2005), which could have detrimental implications for marriage.

Conclusion

For several decades, evolutionary perspectives have been used to suggest numerous traits and processes that should be functional versus maladaptive for human reproduction. Although numerous cross-sectional studies have validated the importance of these factors for attraction, fewer studies have examined the value of such factors for relationship maintenance (e.g., satisfaction, dissolution), and even fewer have adopted an extended longitudinal perspective (for an exception, see Meltzer et al., 2014). The current research did just that and provides compelling prospective evidence to suggest that selective pressures may shape sexual motives that can be detrimental for long-term relationships such as marriage. Notably, given the importance of successful marriage for psychological and physical well-being, this functional perspective may help to inform scientists and practitioners of novel interpersonal avenues that would allow a wide range of individuals to achieve such well-being.

Action Editor

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Author Contributions

A. L. Meltzer developed the study concept and contributed to the study design. All the authors contributed to data collection. J. E. French and A. L. Meltzer analyzed and interpreted the data and drafted the manuscript, and E. E. Altgelt provided critical revisions. All the authors approved the final manuscript for submission.

ORCID iD

Juliana E. French https://orcid.org/0000-0001-9464-2343

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Open Practices

All materials have been made publicly available via the Open Science Framework and can be accessed at osf.io/mk5s3. Data for this study have not been made publicly available, and the design and analysis plans were not preregistered. The complete Open Practices Disclosure for this article can be found at http://journals.sagepub.com/doi/suppl/10.1177/0956797619868997.

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Notes

1. See the Supplemental Material for evidence suggesting that actors' perceived quality of alternatives mediated the association between their sociosexuality and initial marital satisfaction. Also see the Supplemental Material for somewhat weaker evidence suggesting that partners' perceived quality of alternatives mediated the association between partners' sociosexuality and actors' changes in marital satisfaction over time.
2. The effect sizes found in the current research are strikingly similar to previously published, related effects (e.g., Rodrigues, Lopes, & Smith, 2017; Webster et al., 2015; for comparisons, see the Supplemental Material).
3. Given the exploratory nature of these moderator analyses, readers should interpret these results with caution until future research can replicate the effects using higher powered samples.

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