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Does Couples' Communication Predict Marital Satisfaction, or Does Marital Satisfaction Predict Communication?

The quality of communication between spouses is widely assumed to affect their subsequent judgments of relationship satisfaction, yet this assumption is rarely tested against the alternative prediction that communication is merely a consequence of spouses' prior levels of satisfaction. To evaluate these perspectives, newlywed couples' positivity, negativity, and effectiveness were observed four times at 9-month intervals, and these behaviors were examined in relation to corresponding self-reports of relationship satisfaction. Cross-sectionally, relatively satisfied couples engaged in more positive, less negative, and more effective communication. Longitudinally, reliable communication-to-satisfaction and satisfaction-to-communication associations were identified, yet neither pathway was particularly robust. These findings raise important doubts about theories and interventions that prioritize couple communication skills as the key predictor of relationship satisfaction, while raising new questions about other factors that might

predict communication and satisfaction and that strengthen or moderate their association.

Communication occupies a central role in models of relationship deterioration, as intimate bonds are believed to remain strong to the extent that partners respond with sensitivity to one another (e.g., Reis & Patrick, 1996). Nonetheless, evidence substantiating the critical importance of communication comes almost exclusively from cross-sectional studies (Woodin, 2011) and from longitudinal studies in which communication observed at one time point is used to predict later marital satisfaction (Karney & Bradbury, 1995). If changes in communication are truly the mechanism by which satisfaction changes, however, longitudinal data on communication behaviors are needed to show that communication consistently predicts changes in satisfaction over time. Moreover, in the absence of such data, cause and effect cannot be disentangled: Actual effects of communication on later satisfaction might be overstated if earlier assessments of satisfaction are generating variability in later communication. In the current study we addressed this gap by using four waves of observed communication and self-reported satisfaction data from a sample of newlywed couples to examine whether communication predicts changes in satisfaction and whether satisfaction predicts changes in communication.

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BRIEF REVIEW OF RESEARCH: COMMUNICATION AND MARITAL SATISFACTION

Guided by social exchange theory, early approaches argued that happy marriages could be distinguished from unhappy marriages by the ratio of positive to negative behavior in the relationship (Jacobson & Margolin, 1979). Since then, cross-sectional studies have consistently indicated that distressed couples display more negative communication behaviors and fewer positive communication behaviors during conflict resolution tasks than relatively satisfied couples (Bradbury & Karney, 2013). Behavioral theory extended these findings to posit that marital distress is a consequence of poor communication, arguing that “distress results from couples’ aversive and ineffectual response to conflict” (Koerner & Jacobson, 1994, p. 208).

Evidence for the notion that poor communication predicts couple outcomes is mixed. Consistent with the aforementioned pattern, low levels of positive affect and high levels of negative skills predict steeper declines in marital satisfaction over time (Johnson et al., 2005), negative behaviors observed at baseline distinguish between satisfied and dissatisfied intact couples at 10-year follow-up (Kiecolt-Glaser, Bane, Glaser, & Malarkey, 2003), and couples who express more negativity in the first 2 years of marriage report greater unhappiness in their marriages after more than a decade compared to couples who are more positive early on (Huston, Caughlin, Houts, Smith, & George, 2001). However, other studies are inconsistent with this general pattern, revealing counterintuitive associations between negative communication and changes in satisfaction. Husbands’ negativity has been shown to predict a positive change in wives’ satisfaction 1 year later, for example, and is unrelated to their own satisfaction (Heavey, Layne, & Christensen, 1993); more negative communication predicts slower, not faster, declines in satisfaction (Karney & Bradbury, 1997); and few links are found between positive communication and satisfaction trajectories (e.g., Markman, Rhoades, Stanley, Ragan, & Whitton, 2010).

Considering Bidirectional Linkages

These findings pose a critical challenge for behavioral theories: If poor communication

reliably distinguishes between distressed and nondistressed couples in the cross section (Woodin, 2011), how is it that poor communication does not consistently predict relationship distress? One possibility is that communication and satisfaction are correlated concurrently not because communication predicts satisfaction but because satisfaction predicts communication. This idea is consistent with long-standing evidence from the social psychological literature that attitudes guide behavior (e.g., Ajzen & Fishbein, 1977) and would suggest that couples’ global evaluations of their relationship should predict how partners behave toward one another. As such, communication may be a consequence of marital satisfaction rather than a cause.

Support for this competing theoretical perspective would have important applied implications. Because communication has been viewed as the key mechanism underlying relationship functioning, interventions designed to prevent or ameliorate couples’ distress have emphasized communication skills (e.g., Benson, McGinn, & Christensen, 2012; Rogge, Cobb, Lawrence, Johnson, & Bradbury, 2013). In particular, this focus on decreasing negative communication and increasing positive communication forms the core agenda in large-scale, federally sponsored tests of leading couple education programs (e.g., Hsueh et al., 2012; Wood, Moore, Clarkwest, & Killwald, 2014), following the assumption that improving couples’ communication will improve relationships and, ultimately, prevent relationship dissolution. This focus is appropriate if poor communication is the root of marital distress. If poor communication is a symptom or correlate of distress, however, prevention programs targeting communication may prove less useful than programs targeting more proximal mechanisms generating distress. Thus, clarifying the relationship between communication and marital satisfaction may advance understanding of their association and inform intervention.

Understanding the antecedent–consequent associations involving communication and satisfaction therefore requires multiwave assessments of both variables. Yet few studies to date have assessed communication at multiple time points, limiting our ability to directly test these questions. Implementing a multiwave design also allows for new questions about whether the communication-to-satisfaction and

satisfaction-to-communication effects have differential temporal sequencing, such that marital satisfaction initially predicts communication early in marriage whereas communication predicts marital satisfaction as time passes.

Prior research on the association between communication and satisfaction is also limited by its focus on middle-class Caucasian couples, which narrows the range of experiences captured and limits the generalizability of findings. Studying samples that are culturally and economically diverse is especially important in light of the interventions described earlier, as recent federal initiatives have sought to develop and deliver communication-based interventions to ethnically diverse low-income couples (Hsueh et al., 2012; Wood et al., 2014). The theoretical assumption underlying these models—that better communication yields stronger and more fulfilling relationships—has yet to be tested in these populations, however.

THE CURRENT STUDY

In this study we used four waves of data from a sample of low-income, ethnically diverse newlywed couples studied over the first 3 years of marriage to examine the direction of the relationship(s) between marital satisfaction and observed communication. The early years of marriage are an ideal time to study these associations because they are a period of significant risk and change for many couples (e.g., Kreider & Ellis, 2011). Disentangling associations between satisfaction and communication also requires studying them before any linkages between them become too well-established, thus necessitating research early in couples' marital careers.

The antecedent–consequent models yield two sets of basic predictions: (1) communication at one time point should lead to changes in satisfaction at a subsequent time point, consistent with behavioral models, and (2) satisfaction at one time point should lead to changes in communication at a subsequent time point, consistent with attitude–behavior models. Bidirectional associations between satisfaction and communication may also be present, indicating that communication and satisfaction mutually reinforce one another. In addition, simultaneously examining communication-to-satisfaction and satisfaction-to-communication allowed us to compare the relative magnitude of the pathways, providing

new information about which is a stronger predictor.

We considered two factors that may affect these general patterns. First, we examined whether the relationship between communication and marital satisfaction varies depending on what type of communication is being considered. We can distinguish between several different types of communication behavior, including positive communication (warmth, endearment), negative communication (hostility, contempt), and effective communication (assertiveness, generating solutions); each of these may operate differently. Kim, Capaldi, and Crosby (2007) found that positive emotion was more important than negative emotion in predicting subsequent marital satisfaction, consistent with the view that positivity serves a predictive role in promoting intimacy and enhancing relationship functioning. However, other theoretical frameworks—most notably Gottman's (1994) "Four Horseman of the Apocalypse"—predict that negativity should prove especially destructive to relationship satisfaction. It is also possible that low levels of effective communication may serve to undermine the relationship, whereas positivity may only be the result of positive feelings about the relationship. Accordingly, we considered separate models for positivity, negativity, and effectiveness to allow for the possibility that the pattern of results may vary across communication type.

Second, we examined reciprocal associations between spouses' own satisfaction and communication (e.g., husband satisfaction and husband negativity) and between their satisfaction and their partner's communication (e.g., husband satisfaction and wife negativity). Within the marital literature there has been a great deal of interest in partner effects in domains such as personality (e.g., Luo, et al., 2008) and stress (e.g., Neff & Karney, 2007), but there has been less attention to these processes within the context of communication. Examining partner effects can provide a test of the robustness of the within-sex effects and also allows for the possibility that within-spouse and cross-spouse effects will take different forms. For example, satisfaction might predict one's own future communication behaviors, consistent with attitude–behavior models, but communication might predict the partner's subsequent satisfaction. This study examined these possibilities.

METHOD

Sampling

The sampling procedure was designed to yield participants who were first-married newlywed couples in which partners were of the same ethnicity, living in low-income neighborhoods in Los Angeles County. Recently married couples were identified through names and addresses on marriage license applications in 2009 and 2010. Addresses were matched with census data to identify applicants living in low-income communities, defined as census block groups wherein the median household income was no more than 160% of the 1999 federal poverty level for a four-person family. Next, names on the licenses were weighted using data from a Bayesian Census Surname Combination, which integrates census and surname information to produce a multinomial probability of membership in each of four racial/ethnic categories (Hispanic, African American, Asian, and Caucasian/other). Couples were chosen using probabilities proportionate to the ratio of target prevalences to the population prevalences, weighted by the couple's average estimated probability of being Hispanic, African American, or Caucasian, which are the three largest racial/ethnic groups among people living in poverty in Los Angeles County (U.S. Census Bureau, 2002; see also Elliott, et al., 2013). These couples were telephoned and screened to ensure that they had married, that neither partner had been previously married, and that both spouses identified as Hispanic, African American, or Caucasian. A total of 3,793 couples were contacted through addresses listed on their marriage licenses; of those, 2,049 could not be reached and 1,522 (40%) responded to the mailing and agreed to be screened for eligibility. Of those who responded and agreed to be screened for eligibility, 824 couples were screened as eligible, and 658 of those couples agreed to participate in the study, with 431 couples actually completing the study. The response rate to the initial screening compares favorably to other studies of newlywed couples recruited from marriage licenses (e.g., 17.8% in Johnson et al., 2005; 18% in Kurdek, 1991).

Participants

For the 431 couples who completed the study, at the time of initial assessment, marriages

averaged 4.8 months in duration ($SD = 2.5$), and 38.5% of couples had children. Men's mean age was 27.9 ($SD = 5.8$), and women's mean age was 26.3 ($SD = 5.0$). Wives had a mean income of \$28,672 ($SD = \$24,549$), and husbands had a mean income of \$34,153 ($SD = \$27,094$). Twelve percent of couples were African American, 12% were Caucasian, and 76% were Hispanic, which is comparable to the proportion of people living in the sampled neighborhoods in Los Angeles County (12.9% African American, 14.7% Caucasian, and 60.5% Hispanic; U.S. Census Bureau, 2002). Of the Hispanic couples, 33% spoke Spanish during their interactions and 67% spoke English. All African American and Caucasian couples spoke English during their interactions.

Procedure

Couples were visited in their homes by two trained interviewers who described the IRB-approved study and obtained written informed consent from each participant. The marital satisfaction measure was administered orally to participants by an interviewer who entered their responses immediately via computer. After completing this and other self-report measures individually, partners were reunited for three 8-minute videotaped discussions. For the first interaction, which was designed to assess problem-solving behaviors, partners were asked to identify a topic of disagreement in their relationship and then to devote 8 minutes to working toward a mutually satisfying resolution of that topic. For the second interaction, which was designed to assess social support behaviors, one randomly chosen spouse was asked to "talk about something you would like to change about yourself" while the partner was instructed to "be involved in the discussion and respond in whatever way you wish." Spouses were instructed to avoid selecting or discussing any topics that were sources of tension or difficulty within the relationship. After a short break, a third discussion was held that was identical to the second discussion, with the roles reversed. Couples were debriefed and paid \$75 for participating.

These procedures were repeated three more times at approximately 9-month intervals subsequent to the initial assessment (i.e., Wave 2 = 18 months into marriage; Wave 3 = 27 months into marriage; Wave 4 = 36 months into marriage).

After completing each phase, couples were paid for participating (\$100 at Wave 2, \$125 at Wave 3, and \$150 at Wave 4).

Behavioral Observation

Videotapes were scored by 16 trained coders using the Iowa Family Interaction Rating Scales (IFIRS; Melby et al., 1998). Coders—five of whom were native Spanish speakers—coded only in their native language. Factor analysis was used to reduce the IFIRS codes to three scales: positivity, negativity, and effectiveness. At Wave 1, principal axis factor analysis was applied to the IFIRS codes, which were formed by averaging each individual’s scores

for each code across the three discussion tasks, to investigate their latent structure. The scree plot suggested three factors (i.e., positivity, negativity, effectiveness) for husbands and for wives (Cattell, 1966), which explained 35.7% of the total variance for husbands and 34.7% of the total variance for wives. Adding a fourth factor accounted for only an additional 3.6% of the variance for husbands and 5.1% for wives and was not indicated by the scree plot (for details, see Williamson, Bradbury, Trail, & Karney, 2011). The means, standard deviations, and intraclass correlation coefficients (ICCs) for each of the behavioral scales are presented in Table 1.

Table 1. Means and Standard Deviations of Marital Satisfaction and Communication Over Time

	Wave 1 (n = 431)	Wave 2 (n = 375)	Wave 3 (n = 359)	Wave 4 (n = 336)
Husbands				
Marital satisfaction				
Mean	33.90	33.43	33.44	33.02
SD	3.0	3.7	3.5	4.1
Communication				
Positivity				
Mean	2.38	2.30	2.24	2.33
SD	0.8	0.6	0.6	0.6
ICC	0.83	0.81	0.83	0.77
Negativity				
Mean	1.91	1.76	1.82	1.81
SD	0.6	0.6	0.7	0.6
ICC	0.72	0.85	0.89	0.74
Effectiveness				
Mean	4.18	3.86	3.77	3.85
SD	0.9	1.0	0.9	0.9
ICC	0.74	0.77	0.79	0.84
Wives				
Marital satisfaction				
Mean	33.15	32.83	32.38	32.30
SD	3.4	3.7	4.1	4.2
Communication				
Positivity				
Mean	2.35	2.29	2.24	2.35
SD	0.8	0.6	0.5	0.6
ICC	0.81	0.86	0.82	0.79
Negativity				
Mean	1.94	1.84	1.92	1.93
SD	0.6	0.6	0.7	0.6
ICC	0.77	0.78	0.88	0.78
Effectiveness				
Mean	4.29	3.98	3.88	4.00
SD	0.9	1.0	0.9	0.9
ICC	0.80	0.75	0.77	0.85

Note. ICC = intraclass correlation coefficient; SD = standard deviation. We report results for all available data.

A composite *positivity* behavioral scale was created by averaging an individual's scores on the group enjoyment, positive mood, warmth/support, physical affection, humor/laugh, endearment, and listener responsiveness codes. At each time point, a positivity score was calculated for each of the three discussion tasks, and the average of these three scores was used in the analyses. A composite *negativity* behavioral scale was created by averaging an individual's scores on the angry coercion, contempt, denial, disruptive process, dominance, hostility, interrogation, and verbal attack codes. At each time point, a negativity score was calculated for each of the three discussion tasks, and the average of these three scores was used in the analyses. Finally, a composite *effectiveness* scale was created by averaging an individual's scores on the assertiveness, communication, effective process, solution quality, and solution quantity codes. At each time point, an effectiveness score was calculated for each of the three discussion tasks, and the average of these three scores was used in the analyses.

Marital Satisfaction Questionnaire

Marital satisfaction was assessed by summing responses on an eight-item questionnaire. Five items asked how satisfied the respondents were 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 to what degree the participants 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*). Scores could range from 8 to

37, with higher scores indicating higher marital satisfaction. Coefficient α was acceptable at each time point (mean = .77 for husbands and .75 for wives; range: 0.70–0.83). The means and standard deviations of marital satisfaction for husbands and wives at each wave are shown in Table 1.

RESULTS

Cross-Sectional Correlations

Before examining the longitudinal associations between marital satisfaction and communication behaviors, we examined their cross-sectional associations (Table 2). For husbands, marital satisfaction was positively associated with positivity at each time point (all $ps < .01$) and negatively associated with negative communication at each time point (all $ps < .05$). Effectiveness was not associated with marital satisfaction at the first two time points for husbands, was marginal at the third time point ($p < .10$), and positively associated at the fourth time point ($p < .05$). For wives, marital satisfaction was positively associated with positivity and effectiveness at each time point (all $ps < .05$) and negatively associated with negativity at each time point (all $ps < .01$). Together, these findings are consistent with the idea that more satisfied couples communicate in a more positive manner (more positive, less negative, and more effective), with robust findings for positivity and negativity across husbands and wives.

Analytic Plan

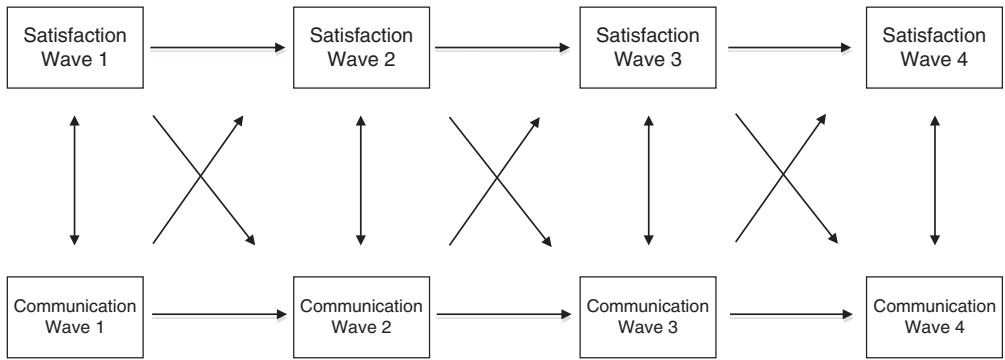
We then used cross-lagged path models to examine the bidirectional associations between communication and marital satisfaction over time (see Figure 1 for sample model). These models

Table 2. Cross-Sectional Correlations Between Marital Satisfaction and Communication for Husbands and Wives

	Wave 1	Wave 2	Wave 3	Wave 4
Husbands				
Marital satisfaction–positivity	0.16**	0.19**	0.24**	0.24**
Marital satisfaction–negativity	–0.15**	–0.13*	–0.16**	–0.17**
Marital satisfaction–effectiveness	0.03	0.08	0.10 ⁺	0.12*
Wives				
Marital satisfaction–positivity	0.25**	0.28**	0.32**	0.23**
Marital satisfaction–negativity	–0.16**	–0.17**	–0.22**	–0.15**
Marital satisfaction–effectiveness	0.13*	0.18**	0.20**	0.16**

⁺ $p < .10$; * $p < .05$; ** $p < .01$.

FIGURE 1. CROSS-LAGGED PANEL MODEL EXAMINING BIDIRECTIONAL ASSOCIATIONS BETWEEN NEWLYWEDS' MARITAL SATISFACTION AND COMMUNICATION OVER TIME.



are commonly used in longitudinal research to test the direction of influence between two variables (e.g., Johnson & Anderson, 2015; Shaffer, Lindhiem, Kolko, & Trentacosta, 2013). This design examines both pathways of interest (e.g., early communication to later marital satisfaction and early marital satisfaction to later communication) simultaneously, while controlling for all potential relationships among the variables (e.g., Martens & Haase, 2006). It is more conservative than a regression analysis because both dependent variables are entered into the model and allowed to correlate, thereby accounting for the multicollinearity between the two dependent variables and leaving less variance in the dependent variables to be explained by the independent variables.

Analyses were conducted in MPlus (Muthén & Muthén, 2002). This procedure accommodates missing data using full information maximum likelihood (FIML), so models were estimated using all available observations (i.e., $N=431$ for each of the models). Predictor variables included communication and marital satisfaction from the preceding time point (e.g., when dependent variables were negativity and marital satisfaction at Wave 2, predictor variables were negativity and marital satisfaction at Wave 1). Because the stability paths are included in the model (e.g., negativity at Wave 1 to negativity at Wave 2), each of the effects should be conceptualized as examining change over time (e.g., negativity at Wave 1 predicts marital satisfaction at Wave 2, controlling for marital satisfaction at Wave 1). Of note, in cross-lagged path models, the stability paths

represent rank-order stability within the sample (e.g., whether someone high on satisfaction at one time point continues to be high on satisfaction at the subsequent time point; Shaffer et al., 2013) rather than an estimate of within-person change (e.g., whether someone's satisfaction changes over time) like in growth curve analysis.

All results presented here and in the tables are standardized model results (STDYX standardization). We examined the significance of the stability and cross-lagged paths and compared their relative magnitude using Wald tests. In all models, stability paths for satisfaction and communication were significant ($p < .01$), and Wald tests indicated that the satisfaction-to-satisfaction paths were stronger than the communication-to-communication paths (results are shown in Tables 3–6). We focus now on the cross-lagged effects.

Cross-Lagged Models: Four-Wave Analyses

We analyzed 12 four-wave models, one for each of the communication behaviors of interest (positivity, negativity, and effectiveness), run separately for husbands' within-sex effects (e.g., husbands' positivity and husbands' satisfaction), wives' within-sex effects (e.g., wives' positivity and wives' satisfaction), husbands' cross-spouse effects (e.g., husbands' positivity and wives' satisfaction), and wives' cross-spouse effects (e.g., wives' positivity and husbands' satisfaction).

Positivity. Results for positivity are shown in Table 3. Satisfaction was a significant predictor of positivity at 6 of the 12 lags (median

Table 3. *Stability and Cross-Lagged Effects for Positivity and Marital Satisfaction*

	Stability effects			Cross-lagged effects		
	Satisfaction (β)	Positivity (β)	Wald test	Satisfaction to positivity (β)	Positivity to satisfaction (β)	Wald test
Husbands' positivity and husbands' satisfaction						
Wave 1–2	0.60**	0.43**	42.09**	0.10*	0.09*	4.05*
Wave 2–3	0.68**	0.42**	18.14**	0.11*	0.02	0.25
Wave 3–4	0.69**	0.46**	15.49**	0.05	0.00	0.00
Husbands' positivity and wives' satisfaction						
Wave 1–2	0.61**	0.42**	35.10**	0.15**	0.05	0.99
Wave 2–3	0.69**	0.40**	33.45**	0.18**	0.08*	3.97*
Wave 3–4	0.65**	0.44**	5.44*	0.10+	0.02	0.08
Wives' positivity and wives' satisfaction						
Wave 1–2	0.62**	0.37**	38.43**	0.14*	0.00	0.02
Wave 2–3	0.69**	0.40**	35.98**	0.14*	0.07+	2.61
Wave 3–4	0.66**	0.47**	5.44*	0.09+	-0.02	0.33
Wives' positivity and husbands' satisfaction						
Wave 1–2	0.60**	0.38**	43.73**	0.09+	0.06	1.92
Wave 2–3	0.68**	0.42**	21.92**	0.08	0.01	0.04
Wave 3–4	0.69**	0.48**	15.95**	0.10+	0.00	0.00

Note. Wald tests compare the relative strength of the paths (all $df = 1$). All results are standardized coefficients.

+ $p < .10$; * $p < .05$; ** $p < .01$.

Table 4. *Stability and Cross-Lagged Effects for Negativity and Marital Satisfaction*

	Stability effects			Cross-lagged effects		
	Satisfaction (β)	Negativity (β)	Wald test	Satisfaction to negativity (β)	Negativity to satisfaction (β)	Wald test
Husbands' negativity and husbands' satisfaction						
Wave 1–2	0.60**	0.44**	22.16**	-0.10*	-0.09*	3.95*
Wave 2–3	0.68**	0.45**	2.72+	-0.10+	-0.03	0.52
Wave 3–4	0.70**	0.55**	24.57**	-0.06	0.01	0.04
Husbands' negativity and wives' satisfaction						
Wave 1–2	0.62**	0.44**	17.37**	-0.07	-0.03	0.55
Wave 2–3	0.70**	0.45**	9.96**	-0.15**	-0.09*	5.24*
Wave 3–4	0.67**	0.57**	7.24**	0.03	0.06	1.45
Wives' negativity and wives' satisfaction						
Wave 1–2	0.61**	0.47**	7.28**	-0.08	-0.05	1.47
Wave 2–3	0.69**	0.45**	13.72**	-0.13*	-0.13**	9.57**
Wave 3–4	0.66**	0.47**	9.72**	0.04	0.02	0.13
Wives' negativity and husbands' satisfaction						
Wave 1–2	0.60**	0.46**	10.31**	-0.11*	-0.10*	4.85*
Wave 2–3	0.67**	0.44**	5.13*	-0.11*	-0.06	1.60
Wave 3–4	0.70**	0.44**	30.23**	-0.08	0.02	0.28

Note. Wald tests compare the relative strength of the paths (all $df = 1$). All results are standardized coefficients.

+ $p < .10$; * $p < .05$; ** $p < .01$.

$|\beta|$ across all lags = .10). Effects were found across all three lags and on a within- (e.g., husbands' positivity to husbands' satisfaction) and cross-spouse (e.g., wives' satisfaction to husbands' positivity) basis. Positivity was a

significant predictor of communication at 2 of the 12 lags (median $|\beta|$ across all lags = .02); Husbands' positivity predicted their satisfaction over the first lag (Wave 1–2) and their wives' satisfaction over the second lag (Wave 2–3).

Table 5. Stability and Cross-Lagged Effects for Effectiveness and Marital Satisfaction

	Stability effects			Cross-lagged effects		
	Satisfaction (β)	Effectiveness (β)	Wald test	Satisfaction to effectiveness (β)	Effectiveness to satisfaction (β)	Wald test
Husbands' effectiveness and husbands' satisfaction						
Wave 1–2	0.61**	0.40**	14.61**	0.07	0.04	0.88
Wave 2–3	0.69**	0.41**	25.81**	0.04	–0.01	0.11
Wave 3–4	0.69**	0.43**	25.46**	0.04	0.03	0.38
Husbands' effectiveness and wives' satisfaction						
Wave 1–2	0.61**	0.40**	9.96**	0.07	0.10*	5.55*
Wave 2–3	0.70**	0.40**	43.25**	0.11*	0.06	1.62
Wave 3–4	0.66**	0.40**	12.70**	0.17**	0.00	0.04
Wives' effectiveness and wives' satisfaction						
Wave 1–2	0.61**	0.40**	8.69**	0.05	0.06	2.16
Wave 2–3	0.70**	0.41**	36.62**	0.02	0.05	1.65
Wave 3–4	0.66**	0.44**	12.30**	0.11+	–0.01	0.16
Wives' effectiveness and husbands' satisfaction						
Wave 1–2	0.61**	0.38**	14.21**	0.18**	0.05	0.82
Wave 2–3	0.67**	0.39**	21.51**	0.08	0.06	2.05
Wave 3–4	0.69**	0.45**	28.45**	0.10+	0.01	0.00

Note. Wald tests compare the relative strength of the paths (all $df = 1$). All results are standardized coefficients.

+ $p < .10$; * $p < .05$; ** $p < .01$.

Table 6. Stability and Cross-Lagged Effects Using the First and Last Waves

	Stability effects			Cross-lagged effects		
	Satisfaction (β)	Communication (β)	Wald test	Satisfaction to communication (β)	Communication to satisfaction (β)	Wald test
Husbands' positivity						
Husbands' satisfaction	0.57**	0.35**	42.08**	0.10+	–0.01	0.03
Wives' satisfaction	0.57**	0.32**	35.92**	0.25**	0.02	0.03
Wives' positivity						
Husbands' satisfaction	0.57**	0.36**	41.03**	0.09+	0.01	0.00
Wives' satisfaction	0.57**	0.32**	36.31**	0.24**	0.00	0.00
Husbands' negativity						
Husbands' satisfaction	0.57**	0.48**	13.64**	–0.10*	–0.03	0.43
Wives' satisfaction	0.57**	0.48**	10.35**	–0.10+	–0.01	0.01
Wives' negativity						
Husbands' satisfaction	0.57**	0.39**	15.71**	–0.09+	–0.01	0.06
Wives' satisfaction	0.57**	0.40**	11.43**	–0.04	–0.01	0.04
Husbands' effectiveness						
Husbands' satisfaction	0.57**	0.36**	22.27**	0.06	0.04	0.66
Wives' satisfaction	0.56**	0.34**	17.94**	0.16**	0.06	1.38
Wives' effectiveness						
Husbands' satisfaction	0.57**	0.36**	21.55**	0.12*	0.02	0.07
Wives' satisfaction	0.57**	0.36**	16.67**	0.12*	0.00	0.04

Note. Wald tests compare the relative strength of the paths (all $df = 1$). All results are standardized coefficients.

+ $p < .10$; * $p < .05$; ** $p < .01$.

We compared the relative magnitude of the satisfaction-to-positivity effect and the positivity-to-satisfaction effect using Wald tests (Table 3). The satisfaction-to-positivity effect was stronger than the positivity-to-satisfaction effect at two lags (husbands' positivity and husbands' satisfaction [Wave 1–2] and husbands' positivity and wives' satisfaction [Wave 2–3]). The relative magnitude of the cross-lagged effects did not differ significantly at the other lags (all $p > .10$).

Negativity. Results for negativity are shown in Table 4. Satisfaction was a significant predictor of negativity at 5 of the 12 lags (median $|\beta|$ across all lags = .09). Effects were found at the first two lags and on a within- and cross-spouse basis. Negativity was a significant predictor of satisfaction at 4 of the 12 lags (median $|\beta|$ across all lags = .06), with effects found at the first two lags and on a within- and cross-spouse basis.

Wald tests comparing the satisfaction-to-negativity effect and the negativity-to-satisfaction effect indicated that the satisfaction-to-negativity effects were stronger than the negativity-to-satisfaction effects at four of the lags: husbands' negativity and husbands' satisfaction (Wave 1–2), husbands' negativity and wives' satisfaction (Wave 2–3), wives' negativity and wives' satisfaction (Wave 2–3), and wives' negativity and husbands' marital satisfaction (Wave 1–2). The relative magnitude of the cross-lagged effects did not differ significantly at the other lags (all $p > .10$).

Effectiveness. Results for effectiveness are shown in Table 5. Satisfaction was a significant or marginal predictor of effectiveness at 3 of the 12 lags (median $|\beta|$ across all lags = .08), with effects across all three waves and on a cross-spouse basis. Effectiveness was a significant predictor of satisfaction only once (median $|\beta|$ across all lags = .05): husbands' effectiveness was a significant predictor of wives' marital satisfaction from Wave 1 to 2. Wald tests comparing the relative magnitude of the lags indicated that husbands' effectiveness was a stronger predictor of wives' satisfaction from Wave 1 to 2 than wives' satisfaction was of husbands' effectiveness during that period. The relative magnitude of the cross-lagged effects did not differ significantly at the other lags (all $p > .10$).

Wave 1 to Wave 4 Analyses

Finally, we used only the first and last waves of data to examine the associations between satisfaction and communication over a longer period of time (approximately 2.5 years between waves). Doing so allowed us to examine whether the length of the lags affected the results and is more consistent with previous studies that have examined couples' initial communication as a predictor of subsequent satisfaction.

First, as shown in Table 6, we analyzed the cross-lagged models described earlier using the first and last waves of data. Initial satisfaction reliably predicted subsequent communication in 6 of 12 possible effects (median $|\beta| = .10$), with significant results found for all three communication behaviors and on a within- and cross-spouse basis. In contrast, communication did not predict subsequent satisfaction in any of the 12 possible tests (median $|\beta| = .01$). However, the relative magnitude of these cross-lagged effects did not differ significantly for any of the effects (all $p > .10$).

Given that stability effects were consistently stronger for satisfaction than for communication (see Table 6, left side), it is possible that the non-significant behavior-to-satisfaction effects are a statistical artifact, as controlling for baseline satisfaction removes more explainable variance in satisfaction than is the case when controlling for baseline communication. To evaluate this possibility, we examined whether Wave 1 behavior scores covaried with Wave 4 satisfaction scores before controlling for Wave 1 satisfaction scores. We therefore calculated the zero-order correlations between (a) Wave 1 satisfaction scores and Wave 4 communication behaviors and (b) Wave 1 communication behaviors and Wave 4 satisfaction scores. As shown in Table 7, 10 of the 12 satisfaction-to-behavior correlations were statistically significant, whereas only 3 of the 12 behavior-to-satisfaction correlations were significant. When we directly compared the magnitude of the correlations using a macro developed by Lee and Preacher (2013), there was no instance where the communication-to-satisfaction correlation was stronger than the satisfaction-to-communication correlation, but there were two instances where the satisfaction-to-communication correlation was stronger than the communication-to-satisfaction correlation (wives' satisfaction and husbands' positivity and wives' satisfaction and wives' positivity). These results indicate that

Table 7. Zero-Order Correlations Between Communication and Satisfaction Using the First and Last Waves

	Wave 1 satisfaction to Wave 4 communication (<i>r</i>)	Wave 1 communication to Wave 4 satisfaction (<i>r</i>)	<i>z</i> test
Husbands' positivity			
Husbands' satisfaction	0.14*	0.07	1.00
Wives' satisfaction	0.28**	0.11*	2.45*
Wives' positivity			
Husbands' satisfaction	0.15**	0.10 ⁺	0.71
Wives' satisfaction	0.30**	0.14*	2.33*
Husbands' negativity			
Husbands' satisfaction	-0.16**	-0.11 ⁺	-0.75
Wives' satisfaction	-0.18**	-0.10 ⁺	-1.18
Wives' negativity			
Husbands' satisfaction	-0.14*	-0.10 ⁺	-0.58
Wives' satisfaction	-0.10 ⁺	-0.08	-0.28
Husbands' effectiveness			
Husbands' satisfaction	0.08	0.07	0.14
Wives' satisfaction	0.19**	0.13*	0.85
Wives' effectiveness			
Husbands' satisfaction	0.17**	0.10 ⁺	0.99
Wives' satisfaction	0.15**	0.07	1.12

Note. Z-tests compare the relative strength of the correlations (all *N* = 313).

⁺*p* < .10; **p* < .05; ***p* < .01.

behavior-to-satisfaction effects were not reliable or stronger than the satisfaction-to-behavior effects even prior to controlling for baseline satisfaction and indicate that the reported results are not an artifact of differential stabilities for satisfaction and communication.

DISCUSSION

Communication has long been viewed as a key element in partners' judgments of relationship satisfaction, but questions remain regarding cause and effect in these associations. Using four waves of data from a diverse sample of low-income newlywed couples, we assessed concurrent and longitudinal links between relationship satisfaction and spouses' observed positivity, negativity, and effectiveness. Consistent with the idea that higher levels of satisfaction are associated with better communication, cross-sectional correlations at each of the four assessments were significant, such that more satisfied spouses showed more positive, less negative, and more effective communication.

Cross-lagged analyses examining the reciprocal predictive relationships between satisfaction and communication shed light on the directionality of these cross-sectional effects. Support for

the hypothesis that communication predicted satisfaction was limited. Of the 36 cross-lagged effects using the 9-month lags, only 7 were significant for communication-to-satisfaction, and communication did not predict subsequent satisfaction using only the first and fourth waves of data. More support emerged for the reverse pathway examining satisfaction-to-communication effects. For the 9-month lags, satisfaction was a significant predictor of communication in twice as many cases, and there was some evidence that satisfaction was a reliable predictor of subsequent communication using only the first and last lags. However, in the majority of cases, there was not significant cross-lagged prediction.

Directly comparing the magnitude of the communication-to-satisfaction effects and the satisfaction-to-communication effects indicated that the effects did not differ significantly in 85% of cases. Of the seven lags that did differ in magnitude, satisfaction was a stronger predictor of communication than communication was of satisfaction in six cases. Taken together, these results indicate that satisfaction is a more consistent and stronger predictor of communication than the reverse, but overall both effects are fairly inconsistent and similar in magnitude.

Before discussing the implications of these results, we first outline several caveats. First, the study used a sample of low-income, ethnically diverse, first-married, newlywed couples. This sampling strategy was a notable strength of the study, as it captured the experiences of an understudied population and likely allowed for a larger range of communication behavior and marital satisfaction than would be seen in a sample of middle-class White couples. At the same time, the results may not generalize to other populations, such as more established couples, remarried couples, same-sex couples, and low-income, ethnically diverse couples who choose not to marry. Further research is needed to determine whether the predictive power of communication on relationship satisfaction varies across sample types. We note also that these associations were examined over the first 3 years of marriage. This sampling method had the advantage of teasing apart these associations early in couples' marital trajectories before they became well established, but it is possible that different associations could emerge later in couples' marital trajectories. Third, our assessment of communication behavior was limited to the positivity, negativity, and effectiveness dimensions coded during couples' interactions. Although the use of observational ratings of communication behaviors in couples' homes is a significant strength of the study, these structured interactions may not fully capture the ways that couples interact in their everyday lives. Observational ratings from the IFIRS do correlate with couples' own reports of their behavior (Lorenz, Melby, Conger, & Surjadi, 2012), but it is nonetheless possible that couples' subjective ratings of their communication quality or other behavioral patterns (e.g., demand-withdraw behavior; Christensen & Heavey, 1990) may show different patterns of association with satisfaction over time. Finally, the stability paths for satisfaction were significantly stronger than the stability paths for communication. This pattern of results indicates that the between-person, rank-order stability for satisfaction was greater than that for communication, resulting in less variability in satisfaction to be explained relative to communication scores. Nonetheless, after we removed this constraint by computing zero-order correlations between Wave 1 communication and Wave 4 satisfaction (and Wave 1 satisfaction and Wave 4 communication), there was no evidence that communication-to-satisfaction effects

were particularly robust or stronger than the satisfaction-to-communication effects (Table 7). Thus, the differential stability effects did not disproportionately drive the effects reported here.

Notwithstanding these limitations, the current study advances understanding of the association between couples' communication and marital satisfaction during the newlywed years. Although poor communication (more negative, less positive, less effective) was associated with lower levels of satisfaction cross-sectionally, communication was an inconsistent predictor of spouses' own satisfaction or their partner's satisfaction over time. Thus, although communication predicted satisfaction in some instances, in general these exchanges did not have lasting effects on relationship satisfaction. These results—indicating that the causal influence of communication on satisfaction may be more limited than previously thought—challenge leading behavioral models of relationship change that argue that relationship satisfaction changes as a function of couples' communication. This work suggests that more specificity is needed to clarify the circumstances under which communication does and does not predict satisfaction. For example, it could be the case that only more severe forms of negative exchanges such as aggressive behavior undermine relationship quality (e.g., Lawrence & Bradbury, 2007). Alternatively, couples' subjective interpretations of their behavior may prove critical, even if the observable behavior itself does not, consistent with attributional models (e.g., Bradbury & Fincham, 1990). More attention is also needed to clarify whether factors other than communication serve as the drivers of change in satisfaction. For example, external stressors and the broader environmental context have been shown to undermine couples' relationship satisfaction, particularly among low-income populations such as we have examined here (e.g., Conger et al., 1990; Cutrona et al., 2003). Future empirical work examining factors that do consistently predict satisfaction over time during the early years of marriage will do much to enhance our theoretical understandings of why relationships change.

Satisfaction was a more consistent predictor of husbands' and wives' communication behaviors, and when the cross-lagged effects differed in magnitude they favored the satisfaction-to-communication paths in all but one instance. At the same time, the results for satisfaction-to-

communication were not altogether consistent across time or across all domains of functioning. Across all behaviors, for example, we identified no instances in which satisfaction predicted that behavior across all three of the lags that we studied (see Tables 3, 4, and 5). Moreover, although it was true that the magnitude of the satisfaction-to-satisfaction lags were in some cases stronger than the communication-to-satisfaction lags, in the vast majority of cases the relative magnitude of the lags did not differ. Thus, while satisfaction was a more consistent predictor of communication than communication was of satisfaction, the effect of satisfaction on communication was not particularly robust either, suggesting that other potent forces are at work in affecting change in marriage. As the vulnerability–stress–adaptation model asserts (Karney & Bradbury, 1995), core functions in relationships are likely governed by personality characteristics (e.g., neuroticism, self-esteem), dyadic processes (e.g., time spent together, sexual intimacy), and external factors (e.g., chronic and acute stress), any of which may explain the cross-sectional associations between satisfaction and communication and perhaps even serve as more robust predictors of these constructs. As spouses' communication is unlikely to be simply a downstream manifestation of earlier satisfaction, exploring other potential explanations for how dyadic processes change over time would be particularly illuminating.

More broadly, this study highlights the benefits of repeated assessments of independent variables like communication for understanding relationship development. Prior studies have typically relied on data from a single initial assessment to predict longitudinal change in satisfaction (e.g., Johnson et al., 2005), under the assumption that this information captures an unfolding process (e.g., increasingly negative interactions) that remains robust over time. In contrast, this study indicates these processes may not remain consistent over time; longitudinal linkages between communication and satisfaction were generally less robust as time passed, despite consistent cross-sectional associations at each assessment and significant prediction early in marriage. Fully understanding the nature of the linkages between satisfaction and independent variables like communication thus requires assessing these variables repeatedly over time in tandem with satisfaction in order to adequately test theoretical models of relationship change.

The present findings also point to the importance of not assuming that prediction of shorter term follow-up will generalize to prediction at longer term follow-up, given that the few significant results for communication did not replicate across the short and longer lags. Greater clarity in the marital literature about the definition of and meaning that can be inferred from different follow-up periods would be valuable.

Several applied implications also follow from these results. Poor communication is the most commonly cited reason why couples seek therapy (Doss, Simpson, & Christensen, 2004) and is estimated by therapists to have the most damaging impact on relationships (Geiss & O'Leary, 1981). Improving communication has thus been the primary goal in leading models of prevention (e.g., Wood et al., 2014) and intervention (e.g., Benson et al., 2012), driven by this perceived need and by the assumption that communication is a key predictor of relationship satisfaction. Our results indicate that a more nuanced assumption is needed: Poor communication does in some cases lead to changes in satisfaction, but assuming that poor communication consistently leads couples to be less satisfied is not supported by these data. One consequence of this insight is that improving communication may be a valuable first step so that couples can engage more readily in treatment, but it is unlikely to be a sufficient ingredient for lasting change in relationship satisfaction. Interventions that also help couples understand and process their other difficulties and that teach them to navigate these problems more effectively are likely to be beneficial (e.g., Jacobson & Christensen, 1996). These interventions may foster the development of higher-order dyadic capacities such as helping couples learn when to raise concerns or why certain problems are particularly difficult. Such skills are distinct from helping them learn how to discuss their difficulties and could have more robust and long-lasting effects on satisfaction.

In sum, these results indicate that communication does in some cases foreshadow later judgments of relationship satisfaction and that higher levels of initial satisfaction can eventuate into unions that are more interpersonally harmonious. On the whole, however, these effects are not particularly strong or consistent over time, leaving open important questions about the interpersonal processes that enable couples to sustain high levels of satisfaction and adaptive communication during the newlywed years.

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