

# Intimate Partner Aggression and Marital Satisfaction: A Cross-Lagged Panel Analysis

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## Abstract

Intimate partner aggression is common in dissatisfied relationships, yet it remains unclear whether intimate partner aggression is a correlate of relationship satisfaction, whether it predicts or follows from relationship satisfaction over time, or whether longitudinal associations are in fact bidirectional in nature. The present study evaluates these perspectives by examining self-reports of aggressive behaviors in relation to corresponding self-reports of relationship satisfaction among a sample of 431 low-income, ethnically diverse (76% Hispanic, 12% African American, 12% Caucasian) newlywed couples. Using a cross-lagged panel analysis, we examined associations between aggression and satisfaction across four time points, spaced by 9-month intervals, during the first 2.5 years of marriage. Cross-sectionally, less satisfied couples reported higher levels of intimate partner aggression. Longitudinally, aggression was a more consistent predictor of satisfaction than vice versa, though neither pathway was particularly robust: Intimate partner aggression was a significant predictor of relationship satisfaction at 4 of the 12 tested lags, whereas relationship satisfaction was a significant predictor of intimate partner aggression at only one of 12 lags. Because all effects were relatively weak and inconsistent, more specificity is

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needed to clarify circumstances under which aggression does and does not predict satisfaction, including whether the predictive power of the aggression-to-satisfaction association varies based on the severity of aggression or other individual (e.g., personality) or external (e.g., stress and environmental context) factors. Together, results indicate that dissatisfied couples are more likely to engage in intimate partner aggression, but being dissatisfied is unlikely to increase the level of aggression a couple engages in over time.

**Keywords**

domestic violence, domestic violence and cultural contexts, predicting domestic violence

Interpersonal processes define romantic relationships and the ways in which partners interact with each other are of fundamental importance to relationship functioning (Thibaut & Kelley, 1959). However, it is surprisingly difficult to show consistent predictive effects of the association between dyadic processes and partners' perceptions of relationship quality. For example, in a longitudinal study of 431 newlywed couples, observed communication did not have lasting effects on relationship satisfaction (Lavner, Karney, & Bradbury, 2016). Similarly, in a study of 29 married couples, husbands' negative communication was unrelated to their satisfaction 1 year later (Heavey, Layne, & Christensen, 1993) and few links were found between positive communication and marital satisfaction trajectories using data from 210 couples across the first 5 years of marriage (e.g., Markman, Rhoades, Stanley, Ragan, & Whitton, 2010). Such findings are surprising given that couples' communication and marital satisfaction are consistently associated in the cross-section (e.g., Woodin, 2011) and are critical from a prevention standpoint, as they indicate that couples' behaviors, often a key element of relationship interventions, are not necessarily predictive of improved relationship functioning over time.

At least two possible explanations may account for this lack of predictive associations between dyadic processes and relationship functioning. On one hand, it may be that couples' behaviors and their future perceptions of relationship satisfaction are simply not strongly related. In this view, communication would reflect a characteristic of couples' relationships at a particular point in time, rather than offering predictive information about how a relationship will unfold. On the other hand, it may be that partners' communication and problem-solving skills studied thus far are not emotionally consequential enough to result in longitudinal changes in satisfaction, whereas other, more extreme and hostile behaviors may exert stronger effects. One such behavioral

process is intimate partner aggression, which has been identified as a common and costly problem for couples, affecting approximately 10 million men and women in the United States every year (Black et al., 2011). Although previous research has identified a correlation between partner aggression and relationship satisfaction (e.g., Ackerman, 2012; Ackerman & Field, 2011; Curtis, Epstein, & Wheeler, 2015; Slep, Foran, Heyman, & Snarr, 2014), longitudinal studies of the association between partner aggression and relationship satisfaction are limited. The present study used data from 431 newlywed couples assessed 4 times over the first 2.5 years of marriage to clarify whether aggression precedes or follows from dissatisfaction or whether associations between these two constructs are in fact bidirectional in nature.

## Review of Research

According to social exchange and behavioral theories, functional marriages can be distinguished from nonfunctional marriages by the relative preponderance of positive to negative behaviors in the relationship, such that couples who experience more negative than positive behaviors will be less satisfied as a result (Jacobson & Margolin, 1979; for a review, see Johnson & Bradbury, 2015). Partners' aggression toward one another is one such negative behavior that may be at the root of nonfunctional marriages. Indeed, partners in relationships characterized by higher levels of aggression tend to be less satisfied (e.g., Ackerman, 2012; Ackerman & Field, 2011; Curtis et al., 2015; Lawrence & Bradbury, 2001; Shortt, Capaldi, Kim, & Laurent, 2010). Although there is some evidence that aggression predicts satisfaction (e.g., Panuzio & DiLillo, 2010; Rogge & Bradbury, 1999), an alternative possibility that may account for the cross-sectional correlation between aggression and satisfaction is that dissatisfaction may predict partner aggression. In line with this possibility, relationship distress has been identified as a unique risk factor for partner aggression (Capaldi, Knoble, Shortt, & Kim, 2012; Slep et al., 2014). However, other studies do not find support for a causal association in either direction (e.g., Murphy & O'Leary, 1989; Schumacher & Leonard, 2005). Thus, the association between aggression and satisfaction may not be as strong or at least not as consistent in a longitudinal sense as previously thought. It is also possible that the association between aggression and satisfaction is bidirectional or reciprocal in nature, such that aggression causes relationship distress and, simultaneously, relationship distress causes aggression.

Although evidence for the notion that aggression actually predicts distress or vice versa is mixed, clarifying the direction of effects would have important theoretical and practical implications. Support for the supposition that aggression leads to increased dissatisfaction would highlight the importance of dyadic processes to relationship functioning, indicating that hostile

processes such as partner aggression serve to erode relationship functioning over time. Moreover, it would suggest that previous research examining communication and problem-solving behaviors as the main dyadic processes leading to distress has failed to capture the full range of couples' interactions by overlooking more hostile and severe dyadic processes such as partner aggression. Alternatively, if satisfaction is predictive of partner aggression, it would indicate that partner aggression may be one consequence of being in a dissatisfied relationship and suggest that dissatisfied partners are at risk of demonstrating an escalating level of hostile and aggressive exchanges over time. Finally, if the longitudinal linkages between these two variables are not significant or consistent, despite significant cross-sectional associations, it would suggest that intimate partner aggression is a feature of dissatisfying relationships, but is neither a consequence nor cause of this dissatisfaction. In this case, more work would be needed on other factors such as personality characteristics or external stressors that may better explain associations between relationship satisfaction and intimate partner aggression over time.

Knowing the directionality of the aggression–satisfaction association would also be of importance to prevention and intervention programs for couples in distressed marriages as well as for aggression treatment programs. For the past decades, dyadic processes have been viewed as the key mechanisms underlying relationship functioning. Thus, interventions designed to prevent or ameliorate couples' distress have emphasized the ways partners interact with one another (e.g., Benson, McGinn, & Christensen, 2012; Rogge, Cobb, Lawrence, Johnson, & Bradbury, 2013). However, prevention programs targeting couples' interaction patterns may prove less useful if a predictive link from aggression, a severe and important interactive process, to changes in satisfaction cannot be established. If relationship distress leads to aggression instead, it will be important to clearly target the ways partners feel about their relationships in treatment programs for relationship aggression. In this case, conjoint couples' treatments for intimate partner aggression, an often debated topic in the academic literature (Langhinrichsen-Rohling, 2010), may be useful.

Understanding the temporal order of the association between partner aggression and satisfaction requires multiwave assessments of both variables of interest. Few studies to date have assessed both variables at multiple time points, limiting the ability to directly test these questions. Including longitudinal assessments of both variables is particularly important to ensure that any longitudinal associations do not simply reflect indirect cross-sectional effects (e.g., satisfaction at Time 1 predicting satisfaction at Time 2, which is associated with intimate partner aggression at Time 2). Implementing a multiwave design also allows for new questions about whether the aggression-to-satisfaction and the satisfaction-to-aggression effects have differential temporal sequencing, such that aggression may predict marital satisfaction early in marriage, whereas

marital satisfaction (or a lack thereof) may predict aggression at later points in marriage. Prior research on the association between aggression and satisfaction is also limited by its focus on middle-class Caucasian couples, which limits the range of experiences captured and the generalizability of findings.

## Overview of the Current Study

The present study uses longitudinal data from a sample of low-income, ethnically diverse newlywed couples studied over the first 2.5 years of marriage (four time points of assessment) to examine the direction of the relationship(s) between intimate partner aggression and marital satisfaction. The early years of marriage are an ideal time to study these associations, as they are a period of significant risk and change for many couples (e.g., Kreider & Ellis, 2011). Furthermore, studying associations between aggression and satisfaction before any linkages between these two variables become too well-established will allow us to disentangle to directionality of these associations.

Based on the previous literature outlined above, we test the competing hypotheses that (a) partner aggression at one time point should lead to changes in satisfaction at a subsequent time point, and (b) satisfaction at one time point should lead to changes in partner aggression at a subsequent time point. Bidirectional associations between aggression and satisfaction may also be present, indicating that aggression and satisfaction mutually reinforce one another. Simultaneously examining aggression-to-satisfaction and satisfaction-to-aggression effects will allow us to compare the relative magnitude of the pathways, providing new information about which is a stronger predictor. We also examine the cross-sectional association between partner aggression and marital satisfaction at each time point.

We examine reciprocal associations between spouses' own aggression and satisfaction (e.g., husband aggression and husband satisfaction) and between their own aggression and their partner's satisfaction (e.g., husband aggression and wife satisfaction). Examining partner effects in addition to actor 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, it is possible that aggression will predict one's own future satisfaction, but satisfaction might predict the partner's subsequent aggression.

## Method

### *Sampling*

The sampling procedure was designed to yield only first-married newlywed couples in which both partners were of the same ethnicity (Hispanic, African

American, or Caucasian), living in neighborhoods with a high proportion of low-income residents in Los Angeles County. Recently married couples were identified through names and addresses on marriage license applications. 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 racial/ethnic categories. 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 belonging to each category. 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 within the data collection window.

### **Participants**

The sample comprised 431 couples identified with the above procedures. At Time 1, marriages averaged 4.8 months in duration ( $SD = 2.5$ ), and 38.5% of couples had children. Husbands' mean age was 27.9 ( $SD = 5.8$ ) and wives' mean age was 26.3 ( $SD = 5.0$ ). Couples had a median household income of US\$45,000 ( $M = US\$55,364$ ,  $SD = US\$42,671$ ). Eighty-nine (20.6%) husbands had less than a high school degree, 117 (27.1%) had a high school degree, 140 (32.5%) had completed some college, and 84 (19.5%) had a college degree or higher. Sixty-three (14.6%) wives had less than a high school degree, 108 (25.1%) had a high school degree, 139 (32.3%) had completed some college, and 121 (28.1%) had a college degree or higher. Twelve percent of couples were African American, 12% were Caucasian, and 76% were Hispanic.

### **Procedure**

At baseline (Time 1), couples were visited in their homes by two interviewers who took spouses to separate areas to obtain informed consent and orally

administer self-report measures. After completing these self-report measures individually, partners completed interaction tasks that are not the focus of this article (for more information, please see Lavner et al., 2016). Couples were debriefed and paid US\$75 for participating. Interviewers returned at 9 months (Time 2), 18 months (Time 3), and 27 months after baseline (Time 4) and administered the same interview protocol. Couples who reported that they had divorced or separated did not complete the interview. Following each interview, couples were paid US\$100 for Time 2, US\$125 for Time 3, and US\$150 for Time 4. Data collection took place between 2009 and 2013 for Time 1 through Time 4.

### **Attrition**

By Time 4, the marital status of 85.2% of couples of the initial 431 couples was known,  $n(\text{together}) = 344$ ,  $n(\text{dissolved}) = 24$ . Due to eight cases on which key variables were missing, the final sample for analysis consisted of 336 intact couples who provided data at Time 4 (78% of original sample). Couples in the original Time 1 and the final Time 4 samples did not differ in aggression at Time 1— $t(429) = 1.28$ ,  $p = .20$ , for husbands and  $t(429) = 1.06$ ,  $p = .29$  for wives—or in husbands' satisfaction at Time 1— $t(429) = 0.38$ ,  $p = .71$ . Wives missing data at Time 4 reported significantly lower satisfaction at Time 1 ( $M$  at Time 1 = 32.19,  $SD = 4.61$ ) than wives provided data at Time 4 ( $M$  at Time 1 = 33.42,  $SD = 2.91$ ),  $t(429) = 3.15$ ,  $p = .002$ .

### **Intimate Partner Aggression Questionnaire**

Partner aggression during the past 9 months was assessed with an adapted version of the revised Conflict Tactics Scales (CTS-R; Straus & Douglas, 2004), which contained a total of 14 items (seven items assessing perpetration and seven items assessing victimization). Examples include, "Did you ever insult or swear at [FILL SPOUSE NAME]?" and "Did you ever stomp out of the room or leave the house during an argument with [FILL SPOUSE NAME]?" For each item, participants were asked whether they had engaged in the act described (measure of perpetration) and if their spouse had engaged in the act described (measure of victimization). If they indicated that an act had happened, participants were asked to indicate the number of times each event had occurred, with the response options being 1 (*Once or twice*), 2 (*Several times*), and 3 (*Often*).

In many prior studies, psychological and physical aggression are examined separately. However, in the present sample, there was no empirical basis for this separation based on the following: First, there was low endorsement

**Table 1.** Husbands and Wives' Report of Perpetration and Victimization.

	Time 1	Time 2	Time 3	Time 4
Husbands' perpetration/wives' victimization	.46**	.42**	.46**	.46**
Wives' perpetration/husbands' victimization	.46**	.39**	.52**	.49**

\*\* $p < .01$ .

of the items assessing whether individuals had beat or had been beaten by their partner (means ranging from 0.00 to 0.003 across the four time points). As removing these items increased internal reliability for the aggression scales, these items were excluded from the analyses, leaving a total of six perpetration items and six victimization items. Second, examination of internal consistency coefficients across all four time points showed that coefficients were higher when combining all aggression items than when separating items into distinct measures. Third, results of exploratory factor analyses indicated no distinct factors for physical versus psychological aggression. Thus, scores on all individual male-to-female and female-to-male aggression items were summed to yield total scores of overall aggression, encompassing both psychological aggression (swearing at partner; stomping out of the room after an argument; threatening to hit partner) and physical aggression (throwing something at partner; pushing, grabbing, or shoving partner; slapping, kicking, biting, or punching partner).

Husband and wife reports of perpetration and victimization were combined to yield overall measures of male-to-female (combining husband reports of perpetration and wife reports of victimization) and female-to-male partner aggression (combining wife reports of perpetration and husband reports of victimization). Aggression was considered to have occurred if at least one partner reported an aggressive incident in the past 9 months, regardless of whether the incident was corroborated by the other partner. For example, if the husband reported a "0" for threatening to hit his partner but his wife reported a "2" in terms of her husband threatening to hit her, that item was scored as a "2." Husbands' reports of perpetration and wives' reports of victimization were significantly correlated, as were wives' reports of perpetration and husbands' reports of victimization (see Table 1). Coefficient  $\alpha$  was acceptable at each time point (mean = 0.70 for husbands and 0.77 for wives, range: 0.68-0.79). Scores could range from 0 to 18 (reflecting six items, each with a maximum score of 3), with higher scores indicating higher aggression. The means and standard deviations of aggression for husbands and wives at each time point are shown in Table 2.



**Table 2.** Means, Standard Deviations, and Correlations of Aggression and Satisfaction.

Variable	1	2	3	4	5	6	7	8
1. T1 Aggression	<b>.69**</b>	.67**	.58**	.50**	-.26**	-.19**	-.21**	-.18**
2. T2 Aggression	.62**	<b>.71**</b>	.66**	.58**	-.25**	-.30**	-.32**	-.23**
3. T3 Aggression	.56**	.67**	<b>.72**</b>	.75**	-.23**	-.23**	-.40**	-.27**
4. T4 Aggression	.51**	.66**	.71**	<b>.72**</b>	-.23**	-.25**	-.26**	-.34**
5. T1 Satisfaction	-.29**	-.25**	-.17**	-.22**	<b>.32**</b>	.57**	.53**	.52**
6. T2 Satisfaction	-.27**	-.36**	-.25**	-.23**	.61**	<b>.48**</b>	.65**	.58**
7. T3 Satisfaction	-.18**	-.27**	-.28**	-.24**	.60**	.67**	<b>.43**</b>	.63**
8. T4 Satisfaction	-.20**	-.26**	-.30**	-.37**	.56**	.63**	.69**	<b>.48**</b>
Husbands: M (SD)	1.94 (1.84)	1.74 (1.93)	1.56 (1.89)	1.52 (1.90)	33.90 (3.05)	33.43 (3.71)	33.44 (3.50)	33.02 (4.05)
Wives: M (SD)	2.64 (2.59)	2.14 (2.31)	2.05 (2.25)	1.90 (2.17)	33.15 (3.39)	32.83 (3.69)	32.38 (4.08)	32.30 (4.15)

Note.  $n = 431$  couples at Time 1, 375 couples at Time 2, 359 couples at Time 3, and 336 couples at Time 4. Intercorrelations between husbands' characteristics are reported below the diagonal, and wives' characteristics are reported above the diagonal. Values in bold along the diagonal represent correlations between husbands' and wives' characteristics. T1/T4 = Time 1/Time 4.  
\*  $p < .05$ . \*\* $p < .01$ .

## Marital Satisfaction Questionnaire

Marital satisfaction was assessed by summing responses on an eight-item questionnaire. Five items asked how satisfied the respondent was with certain areas of their relationship (e.g., “satisfaction with the amount of time spent together”) and were scored on a 5-point scale (ranged from 1 = *very dissatisfied* to 5 = *very satisfied*). Three items asked to what degree the participant agreed with a statement about their relationship (e.g., “how much do you trust your partner”) and were scored on a 4-point scale (1 = *not at all*, 2 = *not that much*, 3 = *somewhat*, 4 = *completely*). Scores could range from 8 to 37, with higher scores indicating higher marital satisfaction. Coefficient  $\alpha$  was acceptable at each time point (mean = 0.77 for husbands and 0.75 for wives, range: 0.70-0.83). The means and standard deviations of marital satisfaction for husbands and wives at each time point are shown in Table 2.

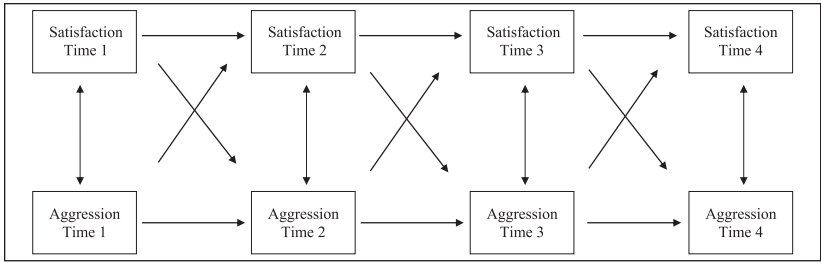
## Results

### Descriptive Data and Cross-Sectional Correlations

Before examining the longitudinal associations between partner aggression and marital satisfaction, we examined descriptive data for these two variables and their cross-sectional associations (Table 2). As evidenced in the top left (aggression) and in the bottom right (satisfaction) quadrants of the Table 2 correlation matrix, both aggression and satisfaction showed consistency over time, thereby indicating dispositional and behavioral stability. For husbands as well as wives, aggression was negatively associated with own marital satisfaction at each time point (all  $p < .01$ ); effects were in the small to medium range. For husbands, the correlation between aggression and satisfaction was strongest at Time 4 and weakest at Time 3, whereas for wives, the correlation was strongest at Time 3 and weakest at Time 1, although differences between the strength of associations were not statistically significant.

### Cross-Lagged Models

*Analytic plan.* We then used cross-lagged path models to examine the bidirectional associations between partner aggression and marital satisfaction over time (see Figure 1 for an example). These models are commonly used in longitudinal research to test the direction of influence between two variables (e.g., Johnson & Anderson, 2015; Lavner et al., 2016). This design examines both pathways of interest (e.g., early aggression to later marital satisfaction and early marital satisfaction to later aggression) simultaneously, while controlling for all potential relationships among the variables (e.g., Martens &



**Figure 1.** Cross-lagged panel model examining bidirectional associations between newlyweds’ aggression and marital satisfaction over time.

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 Version 7.3 (Muthén & Muthén, 2002). This procedure accommodates missing data using full information maximum likelihood, so models were estimated using all available observations ( $n = 431$  for each of the models described below). Because data for aggression and satisfaction were nonnormally distributed, Maximum Likelihood Robust (MLR) was used as the estimator. Predictor variables included aggression and marital satisfaction from the preceding time point (e.g., when dependent variables were aggression and marital satisfaction at Time 2, predictor variables were aggression and marital satisfaction at Time 1). Because the stability paths are included in the model (e.g., aggression at Time 1 to aggression at Time 2), each of the effects should be conceptualized as examining change over time (e.g., aggression at Time 1 predicts marital satisfaction at Time 2, controlling for marital satisfaction at Time 1).

We analyzed 4 four-wave models, run separately for husbands’ within-sex effects (i.e., husbands’ aggression and husbands’ satisfaction), wives’ within-sex effects (i.e., wives’ aggression and wives’ satisfaction), husbands’ cross-spouse effects (i.e., husbands’ aggression and wives’ satisfaction), and wives’ cross-spouse effects (i.e., wives’ aggression and husbands’ satisfaction). All results presented below and in Table 3 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 aggression and satisfaction were significant ( $p < .01$ ; results are shown in Table 3). We focus now on the cross-lagged effects.

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

	Stability Effects			Cross-Lagged Effects			CFI	RMSEA	SRMR
	Sat (β)	Agg (β)	Wald Test	Sat to Agg (β)	Agg to Sat (β)	Wald Test			
<b>Husbands' aggression and husbands' satisfaction</b>									
Time 1-2	0.59**	0.60**	0.90	-0.08	-0.10	1.30	0.88	0.13	0.07
Time 2-3	0.66**	0.67**	0.05	-0.05	-0.07	1.50	—	—	—
Time 3-4	0.67**	0.69**	0.45	-0.04	-0.10*	3.06	—	—	—
Time 1-4	0.56**	0.49**	5.04*	-0.07	-0.03	0.02	1.00	0.00	0.00
<b>Husbands' aggression and wives' satisfaction</b>									
Time 1-2	0.60**	0.59**	0.43	-0.09	-0.06	0.38	0.90	0.12	0.09
Time 2-3	0.67**	0.65**	1.15	-0.11*	-0.11*	2.58	—	—	—
Time 3-4	0.61**	0.73**	1.11	-0.04	-0.09	3.41	—	—	—
Time 1-4	0.56**	0.46**	3.63	-0.18*	-0.04	0.00	1.00	0.00	0.00
<b>Wives' aggression and wives' satisfaction</b>									
Time 1-2	0.61**	0.66**	1.23	-0.08	-0.05	0.03	0.94	0.10	0.08
Time 2-3	0.67**	0.65**	1.51	-0.05	-0.15**	6.04*	—	—	—
Time 3-4	0.64**	0.76**	1.05	-0.03	-0.03	0.39	—	—	—
Time 1-4	0.56**	0.49**	6.55*	-0.11	-0.04	0.00	1.00	0.00	0.00
<b>Wives' aggression and husbands' satisfaction</b>									
Time 1-2	0.57**	0.65**	1.70	-0.08	-0.14*	1.99	0.93	0.11	0.07
Time 2-3	0.67**	0.65**	0.02	-0.06	-0.04	0.10	—	—	—
Time 3-4	0.66**	0.74**	0.16	-0.02	-0.12	3.17	—	—	—
Time 1-4	0.55**	0.50**	9.29**	-0.05	-0.07	0.59	1.00	0.00	0.00

Note. Wald tests compare the relative strength of the paths (all *df* = 1). All results are standardized coefficients. Sat = satisfaction; Agg = aggression; CFI = comparative fit index; RMSEA = root mean square error approximation; SRMR = standardized root mean square residual.

\**p* < .05. \*\**p* < .01.

**Cross-lagged effects.** Across all models, aggression was a significant predictor of satisfaction for four of the 12 lags. Effects were found across all three lags and on a within- (e.g., husbands' aggression to husbands' satisfaction) and cross-spouse (e.g., wives' aggression to husbands' satisfaction) basis. Satisfaction was a significant predictor of aggression for one of the 12 lags: Wives' satisfaction predicted husbands' overall aggression over the second lag (Time 2-3).

We compared the relative magnitude of the aggression-to-satisfaction and the satisfaction-to-aggression effects using Wald tests (Table 3). The aggression-to-satisfaction effect was stronger than the satisfaction-to-aggression effect at one lag: Wives' aggression and wives' satisfaction from Time 2 to Time 3. The relative magnitude of the cross-lagged effects did not differ significantly at any of the other lags (all *p* > .05). Effect sizes for all cross-lagged effects, including those that were statistically significant, were small in size, ranging from 0.03 to 0.15 (0.10-0.15 for significant effects).

### Time 1 to Time 4 Analyses

Finally, to examine whether the length of the lags affected the results, we reran the cross-lagged models using only the first and last time points to examine

associations between aggression and satisfaction over the first 2.5 years of marriage. We again analyzed four models, run separately for husbands' within-sex effects (e.g., husbands' aggression and husbands' satisfaction), wives' within-sex effects (e.g., wives' aggression and wives' satisfaction), husbands' cross-spouse effects (e.g., husbands' aggression and wives' satisfaction), and wives' cross-spouse effects (e.g., wives' aggression and husbands' satisfaction). Aggression was not a significant predictor of satisfaction in any of these four models. Satisfaction was a significant predictor of aggression in the model examining husbands' cross-spouse effects, indicating that husbands' Time 1 satisfaction predicted wives' Time 4 aggression. However, Wald tests indicated that the relative magnitude of the cross-lagged effects did not differ significantly in any of the models (all  $p > .05$ ). Effect sizes for all cross-lagged effects were again small in size, ranging from 0.03 to 0.18.

## Discussion

Interpersonal processes have been identified as the key fundamental elements of partners' perceptions of relationship functioning (Thibaut & Kelley, 1959). However, because it is surprisingly difficult to show consistent predictive effects between dyadic processes and relationship quality, it is important to address questions about whether previous research may have examined dyadic behaviors that are not as emotionally consequential for romantic relationships. Using four waves of data from a diverse sample of low-income newlywed couples, we assessed concurrent and longitudinal links between one of the most emotionally consequential dyadic behaviors—intimate partner aggression—and relationship satisfaction.

Consistent with the idea that higher levels of aggression are associated with lower levels of satisfaction, cross-sectional correlations at each of the four assessments were significant, such that more aggressive spouses were less satisfied with their relationships. Cross-lagged analyses examining the reciprocal predictive relationships between aggression and satisfaction resulted in limited support for the hypothesis that satisfaction predicted aggression. Of the 12 cross-lagged effects using 9-month lags, only one effect was significant for satisfaction-to-aggression. More support emerged for the reverse pathway examining aggression-to-satisfaction effects. Here, aggression was a significant predictor of satisfaction for four of 12 of the 9-month lags. However, when directly comparing the magnitude of the aggression-to-satisfaction and the satisfaction-to-aggression effects using Wald tests, only one significant difference was detected, in which aggression was a significantly stronger predictor of satisfaction than satisfaction was of aggression. Furthermore, when using only the first and last time points to examine the associations between aggression and satisfaction over the first 2.5 years of

marriage, only one (from husbands' Time 1 satisfaction to wives' Time 4 aggression) of the eight possible cross-lagged effects was significant. Taken together, these results indicate that aggression is a more consistent and stronger predictor of satisfaction than the reverse, but overall both effects are fairly inconsistent.

These results should be interpreted in light of some limitations. First, although using a community sample of low-income, ethnically diverse, newlywed couples was a strength of the current study, as this population has been traditionally understudied (Johnson, 2012), it remains unclear whether these results will generalize to other populations such as older couples, couples in either dating or more established relationships, or to clinical samples, including couples in more distressed marriages or couples who experience higher and more severe levels of aggression. It is also possible that highly dissatisfied couples may not have been included in the sample for analysis, as they may have dropped out of the study prematurely. Using a relatively satisfied sample of couples with low levels of relationship aggression makes the current findings more conservative, however, and raises the possibility that stronger effects might be detected in a clinical sample. Further research is needed to verify this prediction. Second, examining associations between aggression and satisfaction during the first 2.5 years of marriage allowed us to tease apart these associations early in couples' marital trajectories before they became well-established, yet different associations could emerge later in couples' marital trajectories. It is also possible that time lags shorter than 9 months might better allow us to detect aggression-to-satisfaction effects as partners who experience aggression in their relationships might feel dissatisfied as an immediate consequence, and thus, aggression-to-satisfaction effects might be relatively situation-specific and time-bound. Other factors, including stressors such as financial strain, might overshadow the effects of aggression and might be more salient as couples, particularly low-income couples, evaluate their satisfaction with the relationship longitudinally. An alternative perspective may be that this relatively short time frame is insufficient to capture the impact of aggression on long-term satisfaction and vice versa, though we note that we found limited evidence for lagged effects using only the first and last wave of data. Third, the use of self-report measures might have biased the current findings, as partners may have underreported the number of aggressive acts they experienced. However, our use of a combined reporting coding scheme (i.e., assessing perpetration and victimization from both partners) that favored the higher number of acts reported by either of the two partners might increase the validity of our results, and the emergence of significant effects despite the relatively low base rates of aggression and satisfaction makes the current results more conservative. Finally, it is

important to recognize that most of the aggression experienced by the couples in our sample was verbal and emotional in nature, with only some instances of mild physical aggression. In more distressed samples, physical and psychological aggression might emerge as distinct concepts and might also produce distinct effects. Therefore, the results reported here should be interpreted with caution as we await replication with more distressed samples.

Bearing these limitations in mind, the current study advances our understanding of the association between couples' aggression and marital satisfaction during the newlywed years. The present results indicate that aggression is a more consistent predictor of satisfaction than vice versa. Although dyadic behaviors do appear to matter in determining couples' marital satisfaction, at least to some extent, the specific kinds of behaviors that we study matter in that more severe forms of negative exchanges such as aggressive behavior appear to have more predictive power than less emotionally consequential behaviors (e.g., observed communication; see Lavner et al., 2016). Conversely, relatively dissatisfied couples do not appear to become more hostile toward one another as time passes. Dissatisfied couples may instead engage in other behaviors such as withdrawal, rather than becoming increasingly aggressive.

Given that all effects were relatively weak and inconsistent, more specificity is needed to clarify the circumstances under which aggression does and does not predict satisfaction. For example, the predictive power of the aggression-to-satisfaction association may depend on the severity of the aggression couples experience (e.g., Lawrence & Bradbury, 2001). We might predict that very aggressive acts (which were extremely rare in the current study) might serve to more dramatically decrease relationship satisfaction. In addition, longitudinal associations between aggression and satisfaction may be influenced by other factors, both within and outside of the relationship. The well-being of intimate relationships is likely governed by a combination of forces, including personality traits, dyadic processes, as well as external factors (see Vulnerability-Stress-Adaptation model; Karney & Bradbury, 1995). Each of these forces may explain the association between aggression and satisfaction or may serve as a more robust predictor of either one of the two constructs. For example, external stressors and the context or environment couples find themselves in may undermine couples' relationship satisfaction, particularly among low-income populations (Cutrona et al., 2003). Personality characteristics also serve to predict aggressive behavior and satisfaction (e.g., Lavner, Lamkin, & Miller, 2015) and may influence which individuals are more affected by aggressive behavior over time and/or which individuals become more aggressive in response to being dissatisfied in their relationship.

The present findings also have implications for the development of prevention and intervention programs addressing marital distress and relationship aggression, particularly among diverse populations such as low-income couples. Because dyadic processes have been viewed as the key mechanisms underlying relationship functioning, interventions designed to prevent or ameliorate couples' distress have emphasized the ways partners interact with one another (e.g., Benson et al., 2012). The current results lend some support for the use of programs targeting couples' interaction patterns, particularly more severe types of interactions such as aggression. However, these results also indicate that addressing these factors alone is unlikely to prove sufficient, calling attention to other factors such as personality, stress, and environmental context that may jointly undermine relationship functioning.

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