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The Role of Negative Affectivity in the Association Between Attributions and Marital Satisfaction

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Structural equation modeling with latent variables was used to test whether negative affectivity, or the cross-situational tendency to experience and express negative thoughts and feelings, correlates with spouses' attributions for relationship events and accounts for the association between attributions and satisfaction. Eighty married couples completed measures of marital satisfaction, attributions, and negative affectivity. Spouses high in negative affectivity tended to make maladaptive attributions, but spouses' attributions were unrelated to the level of negative affectivity reported by the partner. Attributions and marital satisfaction remained associated among husbands and wives after controlling for negative affectivity. These findings clarify the link between attributions and marital satisfaction and raise the possibility that negative affectivity contributes to the attributions that spouses make for negative events in marriage.

A large body of evidence indicates that the attributions spouses make for marital events covary reliably with their marital satisfaction. Specifically, distressed spouses are more likely than nondistressed spouses to attribute marital problems and negative partner behaviors to stable and global characteristics of the partner and to view the partner as behaving intentionally, in a blameworthy manner, and with selfish motivation (e.g., Fincham, 1985; Holtzworth-Munroe & Jacobson, 1985). Maladaptive attributions have been linked also to higher rates of observed negative behavior and greater reciprocation of negative behavior in marital interaction (Bradbury & Fincham, 1992), and perhaps as a consequence of these behavioral effects, maladaptive attributions have been found to predict declines in marital quality over time (e.g., Fincham & Bradbury, 1987b). Theoretical elaboration has accompanied these empirical developments, with several models of close relationships assigning a prominent role to the inferences and interpretations that spouses make for interpersonal events and their impact on behavior and relationship quality (e.g., Baucom & Epstein, 1990; Bradbury & Fincham, 1987, 1991; Kelley et al., 1983; Margolin, 1983; Rusbult, Johnson, & Morrow, 1986; Weiss, 1984; for reviews see Baucom, 1987; Bradbury & Fincham, 1990; Harvey, 1987).

Despite this progress, at least two significant concerns can be raised regarding the current understanding of attributions in marriage. First, surprisingly few attempts have been made to determine what factors, apart from marital satisfaction, predict spouses' tendencies to make relatively adaptive versus maladaptive attributions. An equally important and unexamined issue is whether the association between attributions and marital satisfaction is an artifact of some uncontrolled third variable. These oversights may have significant conceptual and practical implications. First, as attributions are incorporated into models of marriage, it becomes necessary to understand how their role is affected by other relevant variables. If the relationship between attributions and marital satisfaction is accounted for by some third variable or class of variables, then attributions themselves may not be uniquely important and their role within such models should be modified accordingly. On the other hand, if this relationship is not an artifact of some third variable, then a theoretical account of attributions in marriage will be incomplete without some information on their possible determinants.

Second, clinical interventions for marital dysfunction have been devised recently in which attributions are a central target of change (e.g., Baucom, Sayers, & Sher, 1990; Margolin & Weiss, 1978). The justification for efforts of this sort will be strengthened considerably to the extent that alternative explanations for the attribution–satisfaction association have been considered and refuted. If this association is merely a consequence of variables that themselves are not directly considered in treatment, then interventions that focus on attributions as a means of enhancing marital interaction and satisfaction may be misguided. Again, however, if the association is not spurious, then an understanding of spousal characteristics that increase the likelihood of maladaptive attributions could enhance the ability to modify those attributions.

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The purpose of this article is to investigate the extent to which one particular individual-difference variable, neuroticism or negative affectivity, covaries with spouses' maladaptive attributions and accounts for the association between attributions and marital satisfaction. Defined as the tendency "to report distress, discomfort, and dissatisfaction over time and regardless of the situation, even in the absence of any overt or objective source of stress" (Watson & Clark, 1984, p. 483), it seems quite likely that negative affectivity is broadly influential in the day-to-day exchanges between spouses. Indeed, "neurotic circular interpersonal reactions among individuals who are in close and intimate contact" (Mittelmann, 1956, p. 81; see also Beach & Fincham, in press) have long been highlighted in clinical models of marriage, and in a recent longitudinal study husbands' and wives' neuroticism emerged as a reliable predictor of marital instability and dissatisfaction over 5 decades (Kelly & Conley, 1987; see also Kurdek, 1991). The specific roles that negative affectivity might play in relation to marital attributions are outlined in greater detail later in this article. Before turning to these issues, it bears noting that the current examination of negative affectivity may be valuable not only for extending and refining the attribution literature, but for helping to overcome the fact that "social learning models of marriage have had very little to say about individual difference variables" (Robinson & Jacobson, 1987, p. 152) despite the belief by some that "personality characteristics must be taken into account in a comprehensive analysis of marital interaction" (Kelly & Conley, 1987, p. 36).

Negative Affectivity and Attributions

The issue of whether negative affectivity contributes to the attributions that spouses make for relationship events actually consists of two separate questions: First, is there an association between the attributions that a spouse makes and his or her own level of negative affectivity? Second, is there an association between the attributions that a spouse makes and the level of negative affectivity of the partner for whom the attributions are made? Although there is little research relevant to these questions, we propose first that attributions and negative affectivity will be associated at the within-spouse level of analysis, after controlling for marital satisfaction. Specifically, because subjects high in negative affectivity are characterized by a tendency to evaluate many social stimuli in a pessimistic and negative fashion, they are expected to make relatively maladaptive attributions for events in the marriage, independent of their overall evaluation of the marriage. This prediction is contrary to the counterintuitive findings reported by Fletcher, Fitness, and Blampied (1990), in which depression and attributions were not related after controlling for relationship satisfaction. Their results may not bear directly on the present hypothesis, however, because they studied dating couples and focused on depression rather than the more inclusive construct of negative affectivity.

Regarding the second question, attributions and negative affectivity are expected to covary at the between-spouse level of analysis, such that relatively maladaptive attributions will be offered by spouses who are married to partners relatively high in negative affectivity. This association may arise because attributions that denigrate the partner may lead the partner to become negative and pessimistic or, more plausibly, because a spouse who is consistently negative and pessimistic may come to elicit critical attributions from the partner. Because this association might be inflated by the satisfaction of either spouse and the negative affectivity of the attributor, these factors will be statistically controlled. Cross-spouse analyses of this sort are rare in the study of marital attributions, and as a consequence little is known about the extent to which a spouses' attributions correspond to traitlike behavioral tendencies of the sort reflected in the construct of negative affectivity.

Negative Affectivity as a Rival Explanation

Consideration of whether negative affectivity covaries with spouses' attributions raises the possibility that negative affectivity is itself important in marriage and, more specifically, that the association between making unfavorable versus favorable attributions about the partner's behavior and perceiving the marriage as unsatisfying versus satisfying is simply a reflection of the more general tendency to evaluate many types of social events and experiences in a critical and disparaging manner. If this view is correct, then controlling statistically for negative affectivity should result in a nonsignificant association between attributions and marital satisfaction that is otherwise reliable.

Two lines of research underscore the importance of negative affectivity in marriage and its possible role in the association between satisfaction and attributions. First, depression, which is thought to be a key indicator of negative affectivity (Watson & Clark, 1984), has long been known to covary with marital distress concurrently (e.g., Weiss & Aved, 1978) and longitudinally (e.g., Ulrich-Jakubowski, Russell, & O'Hara, 1988), possibly as a result of its relation to behavior in marital interaction (e.g., Nelson & Beach, 1990). Similarly, neuroticism has been shown to be a cross-sectional correlate of marital distress (e.g., Eysenck & Wakefield, 1981) and, as noted earlier, a longitudinal predictor of marital discord and separation (Kelly & Conley, 1987). Second, negative affectivity has been associated with the attributions individuals make for negative social events. This is evidenced by the large body of research on learned helplessness, which indicates that depressed individuals tend to attribute negative events to internal, global, and stable causes (e.g., Peterson & Seligman, 1984; Robins, 1988) and by a recent study showing that depressed spouses tend to attribute their marital problems to the spouses' personality and malicious intent (Heim & Snyder, 1991). Thus, the premise that negative affectivity might account for the association between attributions and satisfaction receives indirect support from links between negative affectivity and marital satisfaction on one hand and negative affectivity and attributions on the other.

Three investigations are relevant to the question of whether the association between attributions for marital events and satisfaction is less of a marital phenomenon than a simple manifestation of spouses' more general tendencies toward pessimism and negativity. In the first, Fletcher et al. (1990) found that relationship satisfaction accounted for unique variance in attributions after controlling for depression. Similar results were obtained in two studies by Fincham, Beach, and Bradbury (1989), as attributions for partner behaviors remained associated with

marital satisfaction independent of depression, first with a sample of subjects recruited from the community and second with a sample of clinically depressed subjects. On the basis of these findings, we hypothesized that negative affectivity would not account for the association between attributions and marital satisfaction.

There are several reasons, however, to view this hypothesis as tentative. First, the Fletcher et al. (1990) study involved partners in dating relationships and their findings therefore may not generalize to long-term, committed relationships such as marriage. Second, both Fincham et al. (1989) studies involved only wives. It is possible, therefore, that negative affectivity plays a different role among husbands, whereas the results for wives await replication. Third, the studies by Fincham et al. examined only responsibility attributions, thereby ignoring any possible effects related to causal attributions. Fourth, all three studies examined only depression, which is related to, but more specific than, the broader concept of negative affectivity as defined by Watson and Clark (1984). The use of an incomplete and overly narrow index of negative affectivity is particularly problematic in testing its status as a rival explanation because doing so may underestimate its effect on the relationship between attributions and marital satisfaction.

Overview of Measures, Hypotheses, and Data Analysis

The applicability and credibility of research on attributions in marriage is restricted because possible predictors of attributions have not been explored and because few studies have attempted to rule out plausible alternative explanations for why attributions and satisfaction are associated. To address these limitations, the associations among negative affectivity, attributions, and marital satisfaction are investigated using data collected from husbands and wives on responsibility and causality attributions, and on two of the indicators of negative affectivity recommended by Watson and Clark (1984), namely, the Beck Depression Inventory (see Beck, Steer, & Garbin, 1988) and the Neuroticism scale of the Eysenck Personality Questionnaire (Eysenck & Eysenck, 1978). Although other individual-difference variables may help clarify the nature of attributions in marriage, negative affectivity was viewed as a particularly plausible variable to consider in this regard because, perhaps more than any other individual-difference variable, negative affectivity is highlighted in the clinical literature on marital dysfunction, predicts deterioration in marriage over long periods of time, and captures a dimension of personality that appears to correspond with a tendency to offer maladaptive attributions for negative events in marriage.

We tested three hypotheses. First, spouses high in negative affectivity were expected to make relatively maladaptive attributions. Second, spouses high in negative affectivity were expected to have partners who make relatively maladaptive attributions. Third, the association between attributions and marital satisfaction was expected to remain reliable after controlling for negative affectivity. Finding that attributions continue to covary reliably with marital satisfaction when the effects of negative affectivity are controlled would refute the rival hypothesis that negative affectivity accounts for the relationship between attributions and satisfaction.

Structural equation modeling with latent variables, which is recommended as an optimal means of analyzing relationships such as those specified in the third hypothesis in the paragraph above (Hoyle, 1991), was used to examine the regression paths between attributions and marital satisfaction for husbands and wives simultaneously, in a model that estimates each path while controlling for the effects of all other paths in the model. The use of latent variables, estimated from multiple measures of each construct, permits these paths (and those pertaining to the first two hypotheses) to be free from possible biasing effects of measurement error that are associated with particular instruments. Finally, it is important to note that paths between the negative affectivity or attributions of one spouse and the marital satisfaction of the partner, while not a major focus of the study, were included in the model to specify completely the associations among constructs. Inclusion of these paths is important because the between-spouse effects that they represent could, if omitted, bias estimates of other associations in the model.

Method

Subjects

Eighty married couples were recruited by means of newspaper advertisements inviting readers "from all walks of life" to participate in a survey on marriage and the family. Participants had been married an average of 8.6 (SD = 9.5) years and averaged 1.5 (SD = 1.6) children. Gross family income averaged between $25,000 and $30,000. Wives averaged 31.4 (SD = 9.6) years of age and 14.3 (SD = 2.1) years of education. Husbands averaged 33.4 (SD = 9.9) years of age and 14.6 (SD = 2.5) years of education.

Procedure

As part of the larger project, marital satisfaction, attributions, and negative affectivity were assessed with questionnaires sent through the mail. Couples contacting the laboratory in response to the advertisement received two sets of materials together with separate postage-paid envelopes and a cover letter that thanked them for their participation in the study and instructed them on their task. The importance of independent completion of the materials was emphasized in the letter, and couples were asked to seal the completed materials in the separate envelopes before talking about the study. Couples were paid $15 upon receipt of the completed materials.

Measures

Multiple measures of each construct were obtained so that estimates of paths between constructs would be unaffected by measurement error associated with particular instruments.

Marital satisfaction. Four measures of marital satisfaction were administered, and in each case higher scores reflect a greater degree of satisfaction with the marriage. The Marital Adjustment Test (MAT; Locke & Wallace, 1959) is a widely used instrument consisting of one question about the spouse's global evaluation of the marriage, eight questions measuring the amount of agreement across different areas of possible conflict, and six questions measuring conflict resolution, cohesion, and communication. The MAT reliably discriminates between nondistressed spouses and spouses with documented marital problems and yields scores that range from 2 to 158 points.

The Quality Marriage Index (QMI; Norton, 1983) is composed of five items asking subjects to rate, on a 7-point scale, the extent to which they agree with statements about their marriage (e.g., "We have a good marriage" and "I really feel like part of a team with my partner") and one item asking subjects to rate their overall happiness with their marriage on a 10-point scale. Scores on the QMI can range from 6 to 45. Coefficient alpha for the QMI was high (husbands = .96 and wives = .96).

The Kansas Marital Satisfaction Scale (KMS; Schumm et al., 1986) is a three-item measure that asks subjects to rate their satisfaction with their marriage, their spouse, and their relationship with their spouse on 7-point scales. KMS scores can range from 3 to 21. Coefficient alpha for the KMS was high (husbands = .96 and wives = .95).

The fourth measure of marital satisfaction was based on the Semantic Differential (SMD; Osgood, Suci, & Tannenbaum, 1957), which is a method of quantifying evaluations of concepts by asking subjects to indicate their perception of that concept on a 7-point scale between two opposite adjectives (for a similar approach see Huston & Vangelisti, 1991). In the current study, subjects were asked to indicate how they felt about their marriage using three adjective pairs: *bad–good, dissatisfied-satisfied,* and *unpleasant-pleasant.* SMD scores can range from 3 to 21. Coefficient alpha for the SMD was high (husbands = .96 and wives = .97).

Attributions. Two measures of attributions were administered, each with subscales for responsibility and causal attributions. The first instrument for assessing attributions, the Relationship Attribution Measure (RAM; Fincham & Bradbury, 1992), presents spouses with four negative stimulus events that are likely to occur in marriage (e.g., "Your husband criticizes something you do" and "Your wife is cool and distant"). For each event, spouses are asked to rate their agreement, on 7-point scales, with statements that reflect six attribution dimensions. The causal attribution index (RAM–C) comprises 12 judgments (3 dimensions × 4 stimulus events) and the responsibility attribution index (RAM–R) comprises 12 judgments. For causal attributions these dimensions pertain to the locus, globality, and stability of the cause of the partner's behavior. Coefficient alpha for this subscale (RAM–C) was acceptable (husbands = .83 and wives = .77) and, as in prior research, a composite causal index was formed by summing the 12 causal judgments. For responsibility attributions, spouses indicated the extent to which the partner behaved intentionally, was selfishly motivated, and was blameworthy for the event. Coefficient alpha for the RAM–R was also acceptable (husbands = .86 and wives = .85), and a composite responsibility index was formed. RAM–C and RAM–R scores can range from 12 to 84, with higher scores reflecting attributions that view the partner in a negative light.

The second attribution measure, the Areas of Difficulty Questionnaire (ADQ; Fincham, 1985) requested ratings along attribution dimensions identical to those on the RAM, but in response to two disagreements in the marriage identified by the respondent rather than for specific partner behaviors. The use of fewer stimulus events resulted in slightly lower coefficient alpha values, especially for causal attributions (for the ADQ–C, husbands = .56, wives = .58; for the ADQ–R, husbands = .78, wives = .74). ADQ–C and ADQ–R scores can range from 6 to 42, with higher scores representing less favorable judgments of the partner.

Negative affectivity. Following recommendations by Watson and Clark (1984), negative affectivity was assessed with the Beck Depression Inventory (BDI) and the Neuroticism scale of the Eysenck Personality Questionnaire (EPQ–N). For nonpsychiatric samples, coefficient alpha on the BDI consistently exceeds .80 and test–retest correlations consistently exceed .75 over 2- to 3-week intervals (see Beck et al., 1988). Coefficient alpha on the EPQ–N is .84 and 4-week test–retest reliability is .86 (Eysenck & Eysenck, 1978). BDI scores can range from 0 to 63, and EPQ–N scores can range from 0 to 23.

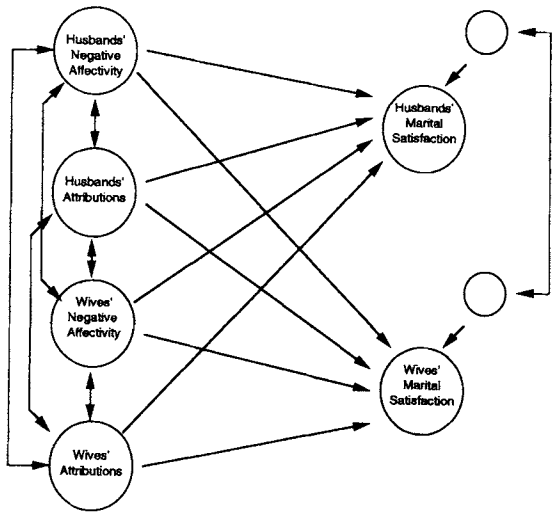

Figure 1. The latent variable component of a model in which husbands' and wives' negativity and attributions contribute independently to husbands' and wives' marital satisfaction.

Data Analysis

Structural equation modeling was conducted using EQS (Bentler, 1989). The latent variable model described in Figure 1 was specified. In the model, latent variables are represented by labeled circles and consist of husbands' and wives' marital satisfaction, attributions, and negative affectivity; they are estimated from the measured variables associated with each construct (measured variables are not pictured in Figure 1).[1] Unlabeled circles represent residual variances. Unidirectional arrows represent regression paths, and bidirectional arrows represent covariances between latent constructs. The path diagram can be interpreted as a series of simultaneous regression equations such that each variable that has a unidirectional arrow directed at it represents a dependent variable in a given equation; there are as many predictors of that variable as there are such arrows.

In the analysis, the negative affectivity and attributions of both spouses were treated as independent predictors of each spouse's marital satisfaction. Path weights were estimated by a generalized least squares method (Bentler, 1989). Chi-squared difference tests comparing the complete model with specific nested models were used to perform two types of additional analyses on paths in the model. The first type of analysis addresses the fact that statistically significant estimates of path weights provide no assurance that a path is important to the proposed

[1] A model in which attributions were predicted by marital satisfaction was not examined for two reasons. First, in cognitive-behavioral models of marriage and marital therapy, attributions are hypothesized to be the cause of, rather than caused by, marital satisfaction (e.g., see Bradbury & Fincham, 1991). Second, in recent longitudinal analyses of attributions and marital satisfaction, attributions have been found to predict change in marital satisfaction, whereas the prediction of change in attributions from marital satisfaction has been nonsignificant (Bradbury, 1990; Fincham & Bradbury, 1987b) or inconsistent (Fincham & Bradbury, 1993).

overall causal structure. In these analyses we generated nested models by removing single paths from the complete model. If the nested model differs significantly from the complete model, the removed path can be considered important to the overall causal structure. The second type of analysis addresses the fact that statistically significant differences between path weights provide no assurance that the strengths of the two paths are significantly different in the overall causal structure. In these analyses, we generated nested models by constraining identical paths (i.e., the same path for husbands and for wives) to be equal and compared that model with the complete model containing the same but unconstrained paths. Because constraining a single path to be equal to another leads to a gain of one degree of freedom, the nested models that are generated allow a test of the null hypothesis that the given paths are equal in the overall causal structure. A difference chi-squared with $p < .05$ was used to evaluate both types of questions.

Results

Descriptive Statistics and Correlations Among Measures

Means and standard deviations for each instrument are presented in Table 1. These show that a wide range of marital satisfaction was sampled and, because MAT scores below 100 are viewed as indicative of marital distress, most spouses scored in the mildly dissatisfied to mildly satisfied range of marital functioning.

The correlations presented in Table 2, which are computed separately for husbands and wives, show that (a) for the constructs of marital satisfaction, attributions, and negative affectivity, separate measures of the same construct intercorrelate reliably; (b) the ADQ and the RAM tend to correlate more highly with each other when the same subscales (i.e., both responsibility or both causal attribution scales) are examined than when different subscales are examined; (c) marital satisfaction covaries reliably with attributions, for causal and responsibility attributions and for partner behaviors and marital problems, such that relatively distressed spouses tend to make relatively maladaptive attributions; (d) marital satisfaction covaries with negative affectivity such that relatively distressed spouses tend to report higher levels of depressive symptoms and, to a lesser degree, neuroticism; and (e) attributions and negative affectivity tend to correlate weakly and inconsistently for husbands (and in one case significantly in the negative direction), while for wives higher levels of negative affectivity—primarily depressive symptoms—covary with relatively maladaptive attributions.

Table 1
Means and Standard Deviations for Measures of Marital Satisfaction, Attributions, and Negative Affectivity for Husbands and Wives

	Husbands		Wives	
Measure	*M*	*SD*	*M*	*SD*
Marital satisfaction				
MAT	107.30	23.37	110.52	24.63
QMI	37.30	7.04	36.66	7.73
KMS	17.51	3.53	17.12	3.54
SMD	18.05	3.28	18.16	3.58
Attributions				
ADQ-R	20.45	6.72	23.42	7.02
ADQ-C	24.91	5.68	27.45	6.05
RAM-R	34.89	11.88	41.55	13.78
RAM-C	48.20	11.89	54.28	10.81
Negative affectivity				
EPQ-N	7.84	5.27	9.74	5.10
BDI	6.75	6.70	6.62	7.76

Note. Higher scores indicate greater marital satisfaction, relatively maladaptive attributions, and higher levels of negative affectivity. MAT = Marital Adjustment Test; QMI = Quality Marriage Index; KMS = Kansas Marital Satisfaction Scale; SMD = Semantic Differential; ADQ = Areas of Difficulty Questionnaire; RAM = Relationship Attribution Measure (for the ADQ and RAM, R = responsibility attributions and C = causal attributions); EPQ-N = Eysenck Personality Questionnaire, Neuroticism scale; BDI = Beck Depression Inventory.

The correlations in Table 3, computed between husbands' and wives' scores, show that (a) husbands and wives tend to be similar in their evaluation of the marriage; (b) for a given measure of attributions, husbands' and wives' scores tend to be positively, although modestly, correlated; (c) husbands' and wives' negative affectivity scores covary reliably; (d) spouses who are relatively dissatisfied in marriage have partners who tend to make relatively maladaptive attributions, particularly maladaptive attributions of causality for marital problems; (e) husbands tend to be relatively less satisfied to the extent that wives are relatively high in negative affectivity; and (f) spouses with partners relatively high in negative affectivity, and especially in depressive symptoms, tend to make relatively maladaptive attributions compared to spouses with partners low in negative affectivity.

The results presented thus far indicate that an appropriate sample was obtained for testing the hypotheses, that the measures are operating generally as expected, and that well-established associations in the marital literature have replicated. Interpretation of the zero-order associations is hindered, however, by the possibility that they are influenced by other uncontrolled variables. We performed structural equation modeling to examine associations among marital satisfaction, attributions, and negative affectivity, with greater control over extraneous sources of variance.

Structural Equation Modeling: The Measurement Model

EQS estimates latent variables from the variance shared between multiple measures of single constructs. Standardized loadings of the measured variables on each latent factor, and unique variance for each measured variable, are presented in Table 4. These values are derived from the final model, which is discussed in detail below. A standardized loading can be understood as a correlation between a measure and the variance shared by all measures of the same construct. Unique variance is variance in a measure that is not shared with other measures of the same construct; it follows that when factor loadings and unique variances are squared and added their sum is 1.00.

There are noteworthy patterns in the factor loadings for each of the three constructs of interest. First, with regard to marital satisfaction, husbands' MAT scores behave differently from the other three measures in that they do not load significantly onto

Table 2
Within-Spouse Correlations Among Measures of Marital Satisfaction, Attributions, and Negative Affectivity, for Husbands (Below Diagonal) and for Wives (Above Diagonal)

Scale	1	2	3	4	5	6	7	8	9	10
1. MAT	—	.88	.84	.81	−.44	−.59	−.52	−.45	−.19	−.38
2. QMI	.80	—	.94	.89	−.32	−.56	−.55	−.47	−.21	−.39
3. KMS	.75	.89	—	.83	−.36	−.53	−.55	−.49	−.21	−.41
4. SMD	.71	.88	.88	—	−.34	−.49	−.52	−.40	−.22	−.40
5. ADQ-R	−.27	−.35	−.37	−.37	—	.50	.58	.34	.10	.19
6. ADQ-C	−.40	−.39	−.48	−.42	.56	—	.38	.42	.16	.32
7. RAM-R	−.35	−.41	−.41	−.41	.45	.41	—	.60	.23	.38
8. RAM-C	−.35	−.35	−.41	−.31	.24	.53	.60	—	.14	.26
9. EPQ-N	−.17	−.15	−.14	−.12	−.25	−.02	.10	.18	—	.65
10. BDI	−.34	−.39	−.32	−.32	−.14	.14	.15	.18	.69	—

Note. For 78 *df*, $r = .18$ for significance at $p < .05$; $r = .25$ at $p < .01$; $r = .28$ at $p < .005$ (one-tailed). MAT = Marital Adjustment Test; QMI = Quality Marriage Index; KMS = Kansas Marital Satisfaction Scale; SMD = Semantic Differential; ADQ = Areas of Difficulty Questionnaire; RAM = Relationship Attribution Measure (for the ADQ and RAM, R = responsibility attributions and C = causal attributions); EPQ-N = Eysenck Personality Questionnaire, Neuroticism scale; BDI = Beck Depression Inventory.

the latent marital satisfaction variable; loadings for the QMI, KMS, and SMD exceed .90, whereas the loading for the MAT is .22. One possible explanation for this discrepancy is that item content on the MAT is relatively heterogeneous compared with the other measures and, accordingly, it is the only instrument administered that measures more than strictly global evaluations of the marriage. Although the consistently high intercorrelations among all marital satisfaction measures (see Table 2) indicate that this interpretation should be considered with caution, the pattern of factor loadings is consistent with the position that the MAT and measures derived from it may be assessing more than marital satisfaction and are therefore difficult to interpret unambiguously, compared with more homogeneous measures that focus strictly on spouses' global evaluations of a marriage (Fincham & Bradbury, 1987a). However, wives' results are contrary to this view because, for them, the loading of the MAT on the latent marital satisfaction variable was significant and quite high at .89. If this finding replicates, it may indicate that wives are more prone than husbands to the process of "sentiment override" (Weiss, 1980), whereby responses to individual questions about the marriage are influenced to a large degree by the sentiment they hold toward the marriage rather than by the specific content of the question.

With regard to the conceptualization and measurement of attributions, a theoretical distinction has been drawn between causal attributions and responsibility attributions (see Bradbury & Fincham, 1990; Shaver & Drown, 1986), and this distinction has received some empirical support (e.g., see Fincham

Table 3
Between-Spouse Correlations Among Measures of Marital Satisfaction, Attributions, and Negative Affectivity

Scale—husbands	Scale—wives 1	2	3	4	5	6	7	8	9	10
1. MAT	.70	.56	.50	.45	−.10	−.30	−.17	−.21	−.28	−.35
2. QMI	.71	.66	.63	.60	−.20	−.40	−.28	−.29	−.27	−.41
3. KMS	.67	.63	.59	.54	−.14	−.39	−.29	−.32	−.28	−.43
4. SMD	.65	.62	.63	.60	−.22	−.40	−.29	−.29	−.25	−.43
5. ADQ-R	−.20	−.22	−.14	−.09	.16	.17	.13	.14	.12	.18
6. ADQ-C	−.43	−.39	−.40	−.27	.13	.33	.22	.26	.23	.26
7. RAM-R	−.31	−.23	−.22	−.20	.12	.22	.27	.15	.14	.26
8. RAM-C	−.32	−.23	−.31	−.21	−.03	.16	.04	.16	−.03	.01
9. EPQ-N	−.08	−.02	−.10	−.04	.03	.05	.13	.13	.25	.26
10. BDI	−.21	−.20	−.28	−.17	−.08	.29	.31	.36	.17	.30

Note. For 78 *df*, $r = .18$ for significance at $p < .05$; $r = .25$ at $p < .01$; $r = .28$ at $p < .005$ (one-tailed). MAT = Marital Adjustment Test; QMI = Quality Marriage Index; KMS = Kansas Marital Satisfaction Scale; SMD = Semantic Differential; ADQ = Areas of Difficulty Questionnaire; RAM = Relationship Attribution Measure (for the ADQ and RAM, R = responsibility attributions and C = causal attributions); EPQ-N = Eysenck Personality Questionnaire, Neuroticism scale; BDI = Beck Depression Inventory.

Table 4
Standardized Factor Loadings and Unique Variances for Husbands and Wives

Measure	Husbands		Wives	
	Factor loading	Unique variance	Factor loading	Unique variance
Marital Satisfaction				
MAT	.22	.98*	.89*	.46*
QMI	.98*	.20	.99*	.11
KMS	.94*	.34*	.94*	.35*
SMD	.93*	.38*	.90*	.43*
Attributions				
ADQ-R	.86*	.51*	.68*	.74*
ADQ-C	.64*	.77*	.34	.94*
RAM-R	.79*	.62*	1.00*	.00
RAM-C	.65*	.76*	.70*	.71*
Negative Affectivity				
EPQ-N	.69*	.72*	.82*	.57*
BDI	1.00*	.00	.85*	.53*

Note. MAT = Marital Adjustment Test; QMI = Quality Marriage Index; KMS = Kansas Marital Satisfaction Scale; SMD = Semantic Differential; ADQ = Areas of Difficulty Questionnaire; RAM = Relationship Attribution Measure (for the ADQ and RAM, R = responsibility attributions and C = causal attributions); EPQ-N = Eysenck Personality Questionnaire, Neuroticism scale. BDI = Beck Depression Inventory.
* $p < .05$.

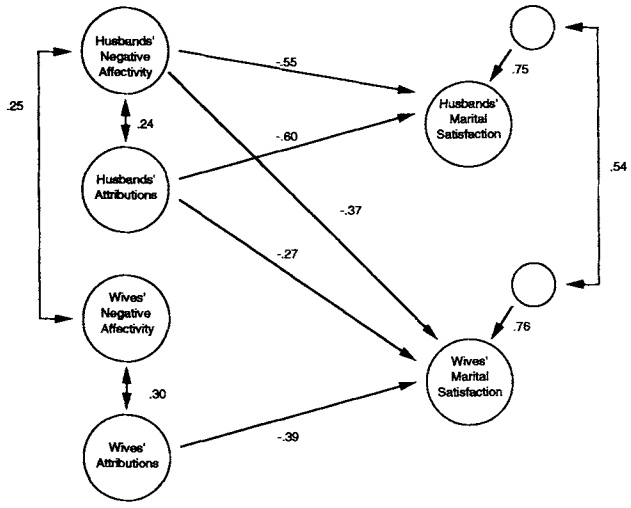

Figure 2. Estimated significant standardized regression paths between husbands' and wives' marital satisfaction, attributions, and negative affectivity. The numbers associated with directional arrows are standardized regression weights. The numbers associated with bidirectional arrows are correlation coefficients. All paths drawn are significant at $p < .05$, one-tailed. $\chi^2(157, N = 80) = 162.41, p = .37$, *ns*.

& Bradbury, 1992, Study 1). It can also be argued, however, that causal and responsibility attributions share considerable variation and therefore should be combined into a single variable. In the present analysis, because the use of separate causal and responsibility composites would nearly double (from 14 to 27) the number of paths under consideration and in turn reduce the power to detect the influence of negative affectivity, and because there were no grounds for assuming that negative affectivity would account for the association between attribution and marital satisfaction for one type of attribution but not the other, we adopted the more parsimonious approach and estimated a single latent variable for attributions.[2] A latent attribution variable was therefore estimated separately for husbands and for wives, the factor loadings for which are presented in Table 4. The only measure failing to load significantly on the latent attribution factor was the wives' ADQ-C scale, a finding that probably owes to the low coefficient alpha value obtained for this variable.

Finally, the finding that the EPQ-N and the BDI loaded highly and significantly on a single latent factor supports Watson and Clark's (1984) contention that these two instruments are viewed most parsimoniously as measures of a single underlying construct, namely, the broad tendency to experience negative affect.

Structural Equation Modeling: The Causal Model

The measurement model indicates that the latent variables necessary for testing the three hypotheses were estimated successfully from the measured variables. The causal model, which addresses the relationships between the latent variables, is considered next. The model described in Figure 1 could not be rejected as a description of these data $\chi^2(157, N = 80) = 162.41, p = .37$. The value of the Comparative Fit Index (CFI; see Bentler, 1988) was 1.00, indicating that the expected data provided an excellent approximation of the observed covariances.

Associations between predictor variables and marital satisfaction. The structural component of the model, describing only the significant standardized regression paths, is presented in Figure 2. With EQS, each regression path is estimated after controlling for the effects of all of the other paths in the model. Before addressing whether negative affectivity is a reliable correlate of attributions, we first consider whether negative affectivity accounts for the association between attributions and marital satisfaction. Specifically, if negative affectivity does account for this relationship, then the association between attributions and marital satisfaction should be nonsignificant in a model where the effects of negative affectivity are controlled. Contrary to this rival interpretation, husbands' and wives' attributions were related significantly to their marital satisfaction

[2] Exploratory EQS analyses were conducted in which causal and responsibility attributions were considered as separate factors in the model, and the results were very similar to those obtained when they were considered in a single factor. Specifically, associations between both classes of attribution and marital satisfaction remained significant after controlling for negative affectivity, and Lagrange Multiplier Tests indicated that the effects of each type of attribution on satisfaction did not differ from each other for husbands or for wives. Moreover, a model in which the effects of causal and responsibility attributions were constrained to be equal did not result in a higher chi-squared relative to a model in which the two types of attribution were free to differ.

after controlling for the negative affectivity of both spouses. The estimated strength of this relationship appeared to be stronger for husbands ($r = -.60$, $p < .001$) than for wives ($r = -.39$, $p < .001$), but a chi-squared difference test indicated that these relationships did not differ significantly from each other. In sum, independent of negative affectivity, attributions were found to covary reliably with marital satisfaction such that husbands and wives making relatively maladaptive attributions tended to be less maritally satisfied.

Additional paths between predictor variables and marital satisfaction are presented in Figure 2. First, results indicate that the association between negative affectivity and marital satisfaction differs between husbands and wives. Husbands' negative affectivity covaries with their marital satisfaction ($r = -.55$, $p < .001$), but wives' negative affectivity and marital satisfaction are unrelated ($r = -.03$, *ns*). These two paths differ significantly, as reflected by a significant increase in chi-squared that is obtained with a model in which the two paths were constrained to be equal ($p < .05$). The nonsignificant association between wives' negative affectivity and their satisfaction is somewhat surprising in view of the associations between depression, neuroticism, and satisfaction shown in Table 2 and reported in the literature. A possible explanation for this finding is that wives' negative affectivity and satisfaction come to be associated as a result of husbands' negative affectivity, which, when considered simultaneously, leads to the nonsignificant association for wives.

Gender differences were also observed in the associations between the attributions and negative affectivity of one spouse and the marital satisfaction of the partner. Husbands' negative affectivity and husbands' attributions were significant predictors of wives' marital satisfaction ($r = -.37$, $p < .001$, and $r = -.27$, $p < .01$, respectively), but neither of the wives' predictor variables were related significantly with husbands' satisfaction ($r = -.20$, *ns*, and $r = .05$, *ns*, respectively). A model in which the cross paths for husbands and wives were constrained to be equal resulted in a significant increase in chi-squared, indicating that these gender differences are reliable. A model in which the nonsignificant paths for wives were dropped from the model proved to be an equally adequate description of the data, $\chi^2(160, N = 80) = 166.544$, $p = .34$. These results lend support to the view that wives' marital satisfaction may be more sensitive to characteristics of husbands than vice versa (cf. Floyd & Markman, 1983), as the marital satisfaction of wives was related more strongly to the negative affectivity and attributions of husbands than the marital satisfaction of husbands was related to the negative affectivity and attributions of wives.

Correlations among latent predictor variables. In the analyses presented thus far, attributions and negative affectivity have been treated as independent but covarying predictors of marital satisfaction for husbands and wives. In the same analysis EQS estimated the extent to which these factors covaried, and the estimated correlations are presented in Table 5. Although all correlations except that between husbands' attributions and wives' negative affectivity ($r = .14$) are statistically reliable, the correlation between husbands' and wives' attributions ($r = .19$) and the two between-spouse correlations between attributions and negative affectivity ($r = .14$ and .20) could be dropped from the model without significantly increasing chi-squared. In contrast, the within-spouse correlations between attributions and negative affectivity ($r = .24$ for husbands and $r = .30$ for wives) cannot be dropped from the model without a significant increase in chi-squared. Finally, the correlation between husbands' and wives' negative affectivity ($r = .25$) was also significant and cannot be dropped from the model without significantly increasing chi-squared. This tendency for spouses to be similar in their levels of negative affectivity replicates prior findings (e.g., Russell & Wells, 1991) and extends them by showing that this association is not an artifact of marital satisfaction.

Discussion

Rationale, Summary, and Limitations

Despite growing evidence that attributions play an important role in marital interaction and longitudinal change in the quality of marriage, surprisingly few attempts have been made to identify factors that might contribute to the nature of spouses' attributions or to rule out rival interpretations for the association between attributions and marital satisfaction. The present study sought to address these shortcomings by examining attributions and satisfaction in relation to negative affectivity, which on the basis of prior theory and research is a likely predictor of spouses' maladaptive attributions and a plausible "third variable" that could account for the association between maladaptive attributions and marital dissatisfaction. This study also sought to improve on prior efforts in this area by studying a relatively large sample of married couples, by studying husbands as well as wives, by operationally defining the third variable in broad terms of negative affectivity rather than in narrow terms of depression or depressive symptoms, and by using structural equation modeling to estimate relations between central constructs with paths that are relatively free of measurement error associated with individual instruments.

Our first hypothesis was that husbands and wives who are relatively high in negative affectivity would offer maladaptive attributions for marital events. These paths were significant and their inclusion in the structural model added to our ability to account for the observed data; the first hypothesis therefore was supported. The second hypothesis, concerning the association between the negative affectivity of one spouse and the maladaptive attributions of the partner, received little support. Wives' negative affectivity was unrelated to husbands' attributions, whereas husbands who were relatively high in negative affectivity tended to have wives who made maladaptive attributions (see Table 5); however, both of these paths could be dropped from the model without significantly reducing its fit to the observed data (see Figure 2). The third hypothesis, that the association between attributions and marital satisfaction would remain intact after controlling for negative affectivity, received clear support for husbands and for wives. This replicates the well-known association between maladaptive attributions and marital dissatisfaction and extends it by showing that it is not simply a manifestation of spouses' general tendencies to respond critically and negatively to social stimuli. The strength of this test is enhanced by the fact that negative affectivity was a reliable

Table 5
Correlations Among Latent Factor Predictor Variables, for Husbands and Wives

Variable	Husbands		Wives	
	Attributions	Negative affectivity	Attributions	Negative affectivity
Husbands				
Attributions	—			
Negative affectivity	.24*	—		
Wives				
Attributions	.19*	.20*	—	
Negative affectivity	.14	.25**	.30***	—

* $p < .05$. ** $p < .01$. *** $p < .005$.

within-spouse correlate of attributions for both spouses and that husbands' negative affectivity was a reliable correlate of husbands' and wives' marital satisfaction. Had negative affectivity not correlated with other variables in the model, its importance in marriage would have been greatly reduced and its plausibility as a rival hypothesis could be called into question. In short, the central conclusions of this study are that the association between attributions and satisfaction is not an artifact of negative affectivity and that higher levels of negative affectivity covary with relatively maladaptive attributions in within-spouse analyses but not in between-spouse analyses.

Before discussing the implications of these findings, we turn to a number of factors that may limit their interpretation. First, causal inferences from these data are not possible because they are correlational and were collected at a single point in time. It remains possible, therefore, that negative affectivity does account for the longitudinal association between attributions and satisfaction. Second, the current findings might differ from those obtained with samples of severely distressed, neurotic, or depressed spouses. For example, negative affectivity might account for the attribution–satisfaction association, or negative affectivity might predict attributions more strongly, if higher mean levels of neuroticism and depression were sampled or if couples seeking therapy were studied. Third, although the present sample compares favorably in size with that in many studies of marriage, the power to detect differences with structural equation modeling would be greater in larger samples. Marginally significant or nonsignificant associations reported here may underestimate their actual population values. Fourth, in evaluating the within-spouse and between-spouse correlations between attributions and negative affectivity, it is important to recognize that the within-spouse associations may capitalize on common method variance, whereas the between-spouse associations do not. The within-spouse correlations therefore may be artificially higher as a consequence.

Implications for Theory, Research, and Clinical Intervention

By demonstrating that negative affectivity did not account for the relationship between attributions and marital satisfaction, this study lends support to models of marriage and other close relationships that incorporate attributions as a central element (see Baucom & Epstein, 1990; Bradbury & Fincham, 1990; Bugental, 1987; Rusbult et al., 1986; Weiss, 1984). The finding that negative affectivity is a reliable correlate of attributions, after controlling for the paths between marital satisfaction and both attributions and negative affectivity, indicates further that it may be necessary to expand these models to include personality variables such as negative affectivity in order to understand the factors that give rise to spouses' use of maladaptive attributions (cf. Bradbury & Fincham, 1988, 1989; Kelley et al., 1983). Emphasis on observable patterns of behavior in marriage (see Weiss & Heyman, 1990) has lead to a relative neglect of personality in marriage, but the present results add to a growing body of data that suggest that greater attention to spouses' personalities may prove fruitful (e.g., Bentler & Newcomb, 1978; Bradbury, Campbell, & Fincham, in press; Kelly & Conley, 1987). For example, particular personality variables may predispose individuals to make maladaptive inferences regarding relationship events, which may in turn hinder problem solving and increase the likelihood of destructive interactions; marital satisfaction might decline accordingly and thereby reinforce spouses' pessimistic tendencies as well as the inferences that derive from them.

In addressing formulations of this sort, however, it is important to recognize that negative affectivity did not account for a large portion of the variance in spouses' attributions and that much of this variance remains unexplained. The present data also suggest that the negative affectivity of the partner does not contribute directly to the maladaptive attributions that a spouse makes. Future theoretical development is therefore needed to identify other possible determinants of spouses' attributions. Although this has not been a topic of much speculation, data indicating that college-aged children of divorced parents are less trusting of a future spouse and less optimistic about marriage relative to controls from intact families (Franklin, Janoff-Bulman, & Roberts, 1990) highlight the possibility that experiences in the family of origin (e.g., interparental conflict) may influence specific attitudes and expectations about marriage and attributions for a future partner's behavior. Indirect support for this position comes from the present finding that the path between husbands' and wives' attributions did not improve the fit

of the model that was tested, which could indicate that factors outside the domain of marriage play a role in determining the nature of spouses' attributions. Clarification of the extent to which specific personality traits and family experiences contribute to marriage-related cognitions among spouses, and how those cognitions then change after marriage, remains an important task for future research.

An unanticipated finding of this study is that husbands' attributions covaried with wives' marital satisfaction, whereas wives' attributions did not covary with husbands' satisfaction. This is surprising because the opposite result has been reported (Fincham & Bradbury, 1989; Sillars, 1985). Additional data are needed to resolve this issue, but the discrepant findings may owe to the fact that negative affectivity and the attributors' marital satisfaction were controlled in this study but not in previous studies; the consistently significant between-spouse correlations between attributions and satisfaction (see Table 3) support this interpretation. If future studies replicate this pattern of results, it will be important to investigate the direction of the effect between husbands' attributions and wives' satisfaction and the mechanism by which this association arises. Compared with wives, husbands' attributions are not strongly related to their behavior in problem-solving discussions (Bradbury & Fincham, 1992); if husbands' attributions are found to influence wives' satisfaction over time, then it may be appropriate to look outside the context of conflict (e.g., how husbands provide social support to wives) to identify interpersonal factors responsible for the effect. Similar questions can be addressed concerning husbands' negative affectivity and wives' marital satisfaction.

Finally, with regard to clinical intervention, this study helps to put cognitive-behavioral forms of marital therapy (e.g., Baucom & Epstein, 1990) on firmer ground because attributions, which are a prominent target of change in these therapies, are not linked to marital satisfaction as a result of shared variance with negative affectivity. In addition, the relatively disappointing performance of cognitive interventions in recent outcome studies (e.g., Baucom, Sayers, & Sher, 1990; see also Baucom, Epstein, Sayers, & Sher, 1989) can now be ascribed with greater confidence to the procedures used to modify attributions rather than to the possibility that attributions are primarily a symptom of a critical and pessimistic personality style. Although the associations between negative affectivity and attributions could be interpreted as evidence that modification of negative affectivity itself should be a goal in marital therapy, these associations are correlational rather than causal and are probably too weak to justify such a view.

Conclusion

To date, nearly all research on attributions in marriage has sought to demonstrate their association with some other construct, such as marital satisfaction, changes in marital satisfaction, dysfunctional relationship beliefs, or interpersonal behavior. By showing that attributions are related to negative affectivity for husbands and for wives, the present study extends this line of research into the domain of personality and reveals that variables typically not examined in relation to marriage may play a role in the inferences spouses make for events in their relationship. However, this study is also unlike many marital attribution studies because it helps to demonstrate that one construct–negative affectivity–does not account for the association between attributions and marital satisfaction. Future studies are needed that rule out rival interpretations for basic associations in this literature so that the correlates and consequences of attributions in marriage can be understood more clearly.

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