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Hostility and Erosion of Marital Quality During Early Marriage

Tamara L. Newton[1,2] and Janice K. Kiecolt-Glaser[1]

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We examined the association between hostility and longitudinal changes in marital quality in a sample of 53 newlywed couples who were in their first marriages and were without children. Spouses' reports of marital quality were assessed initially at an average of 5 months into marriage and, thereafter, at three follow-up points approximately 1, 2, and 3 years subsequent to the date of marriage. Individual growth models were computed to assess the rate of change of marital quality. Hostility among husbands was significantly associated with linear decreases in their own, and their wives', reports of marital quality, even after controlling for the passage of time and the correlated variable of neuroticism. Results are consistent with the psychosocial vulnerability model of hostility and illness (Smith, Health Psychol. *11: 139–150, 1992), which posits that associations between hostility and heightened risk for morbidity and mortality are partially mediated by poor-quality relationships that develop as a consequence of the abrasive interpersonal properties of hostility.*

KEY WORDS: interpersonal hostility; longitudinal design; marital quality; psychosocial vulnerability.

INTRODUCTION

The quality of social relationships is associated with many aspects of physical and psychological well-being, including health maintenance, dis-

[1]Department of Psychiatry, Ohio State University College of Medicine.
[2]To whom correspondence should be addressed at Women's Health Sciences Division, National Center for Post-Traumatic Stress Disorder, Boston VA Medical Center 116B-3, 150 S. Huntington Street, Boston, Massachusetts 02130.

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ease etiology, and recovery from illness (Cohen and Willis, 1985). Individuals who have intimate social ties, and those who have others to turn to for emotional support and material assistance, are at lower risk of physical health problems than are those with less extensive interpersonal resources (House *et al.,* 1988). On the other hand, when characterized by strife, strain, and conflict, social relationships may impair well-being, and they may do so to an even greater degree than supportive ties enhance it (Rook, 1984).

Of interest here is the notion that the personality trait of hostility may undermine the quality of social relationships. Hostile individuals are characterized by cynical and mistrustful attitudes and a propensity to experience anger and to act aggressively (Smith, 1992). Several studies indicate that such individuals are at increased risk of developing cardiovascular disease (e.g., Barefoot *et al.,* 1983). According to the psychosocial vulnerability model of hostility and disease, the cognitive, affective, and behavioral characteristics of hostile individuals generate interpersonal stress and undermine potential supports, thereby increasing hostile persons' vulnerability to illness (Smith, 1992).

In the present study, we employed a longitudinal design to assess the association between hostility and changes in marital quality during early marriage. Marital quality, sometimes referred to as marital satisfaction or marital happiness, is an important determinant of well-being; unhappily married individuals are at greater risk of poor mental and physical health than are their happily married counterparts (Burman and Margolin, 1992; Gove *et al.,* 1983). Marital quality, however, is not stable across the course of marriage. For example, considering the span of years from premarriage through the end of the sixth year of marriage, relationship satisfaction is highest prior to marriage, declines during the first 2.5 years, and stabilizes after approximately 4 years (Markman and Hahlweg, 1993).

Changes in relationship quality during early marriage are not solely due to passive decay associated with the passage of time; certain socioemotional behaviors actively erode marital quality. Central among these behaviors are poor conflict management skills, especially on the part of husbands, invalidating interpersonal styles, and conflictive interactions (Markman and Hahlweg, 1993), with the latter being particularly detrimental to wives' satisfaction during early marriage (Huston and Vangelisti, 1991). Indeed, those socioemotional behaviors are more consistently related to marital quality during early marriage than are variables such as companionship, marital role performance, or amount of involvement in activities with one's spouse (Huston *et al.,* 1986). Because conflictive interactions are central to declining satisfaction in early marriage, and because the primary interpersonal tasks faced by newlyweds are handling conflict and disagreements and maintaining and promoting intimacy (Markman and

Hahlweg, 1993), the cynical, mistrustful, and antagonistic interpersonal orientation of hostile individuals might accelerate the erosion of happiness during early marriage.

Cross-sectional studies reveal that among husbands, but not among wives, trait hostility is significantly and negatively associated with marital quality (Houston and Kelly, 1989; Smith *et al.*, 1988). Observational studies of marital interaction reveal that among husbands, but not among wives, trait hostility is significantly and positively associated with overt hostile behavior and attributions of blame and negative intentions (Smith *et al.*, 1990), behaviors and cognitions that have been associated with decreased marital quality (Fincham and Bradbury, 1993). Because women's marital quality is more susceptible to such negative behavior than is that of men's (Gaelick *et al.*, 1985; Huston and Vangelisti, 1991), wives of hostile husbands would be expected to report especially low levels of marital quality. To date, this prediction has not been supported. Smith *et al.* (1988), reported nonsignificant cross-spouse correlations between trait hostility and marital quality; neither husbands' nor wives' hostility was associated with their spouses' reports of marital quality.

Perhaps previous studies have not observed significant cross-spouse correlations between hostility and marital quality because they have not considered the developmental course of marriage. In the first few months of marriage, associations between marital quality and spouses' conflictive interactions are nonsignificant or small in magnitude (Huston *et al.*, 1986; Huston and Vangelisti, 1991). Significant, and negative, associations between marital quality and conflictive interactions begin to emerge approximately 1 to 2 years into marriage (Huston *et al.*, 1986; Kelly *et al.*, 1985) and continue to increase in magnitude over time, at least through the first 5 years of marriage (Markman, 1981). Thus, there is a "sleeper effect" (Kelly *et al.*, 1985; Markman, 1981) whereby associations between spouses' conflict and marital quality emerge only after a couple has been married for some time and then continue to increase in magnitude at least several years into the relationship. It follows that associations between trait hostility and marital quality may be obscured or weakened in studies that employ couples who have been married for varying lengths of time or that do not account for length of marriage either methodologically or statistically. This issue has not been addressed in previous studies of hostility and marriage.

In the present study, we examined the association between trait hostility and marital quality in 53 married couples who were in their first marriages and were without children. Spouses' marital quality was assessed initially at an average of 5 months into marriage and, thereafter, at three follow-up points approximately 1, 2, and 3 years subsequent to the date of

marriage. We computed individual growth models (Francis *et al.*, 1991) to assess the rate of change of marital quality. To mitigate weakened associations that might result from the sleeper effect, we employed newlywed couples and we statistically controlled for years of marriage and cohabitation prior to marriage. Finally, because neuroticism is significantly and positively associated with both trait hostility (Smith and Frohm, 1985) and marital dissatisfaction (Kelly and Conley, 1987), we statistically controlled for neuroticism to rule out potential third variable effects. Because hostile husbands exhibit conflictive behavior, and because such behavior is strongly associated with wives' marital quality, we hypothesized that wives of hostile husbands would show significant declines in their marital quality over the course of early marriage. In addition, based upon previous findings, we predicted a significant negative association between hostility and marital quality among husbands, and we expected the magnitude of this association to increase over time.

METHOD

Participant Recruitment and Screening

As part of a larger project examining marital discord and health, 90 newlywed couples were selected for longitudinal assessment. Participants were selected according to stringent mental and physical health criteria, described below. These selection criteria were employed to minimize immunological and endocrinological confounds (see Kiecolt-Glaser *et al.*, 1993) and to rule out preexisting mental and physical disorders that might contribute to marital dissatisfaction (Gotlib and Hooley, 1988). Although this selection procedure limits the generalizability of our findings, it also increases our confidence that any observed associations between hostility and marital quality are indeed due to hostility, rather than to potentially correlated factors that could also decrease marital quality, e.g., prior marital discord, or mental and physical disorders.

Couples were initially identified through Franklin County Court records for the Columbus metropolitan area. In the first phase of the screening, 4758 demographically "appropriate" individuals (first marriage, ages 20 to 40, no children), who had obtained marriage licenses 4 to 6 months previously, received postcards inviting them to participate in a phone survey of "newlyweds' health and happiness." In the second phase of the screening, 2249 individuals, or 47% of those who originally received postcards, agreed to participate in the phone survey concerning their physical and mental health. Each couple received $10.00 for completing the

survey. Based upon data from this telephone interview, we eliminated couples from further consideration if either spouse reported any acute or chronic health problems, took any medications except birth control pills, drank more than 10 alcoholic drinks per week, smoked cigarettes or used any street drugs, used caffeine excessively, or was not within 20% of ideal weight for his or her height. Couples who were planning to move or to have children within the next 2 years were excluded because they might be lost to follow-up.

In the third phase of the screening, 313 individuals, or 14% of the phone survey sample of 2249, participated in a second set of phone interviews during which current and lifetime psychiatric and medical disorder data were collected. Comparisons of physical health and depression data collected through telephone or in-person interviews suggest that the two methods produce comparable data (Aneshensel and Yokopenic, 1985). Participants received $15 each for these 30- to 90-min interviews administered by postdoctoral fellows and advanced clinical psychology graduate students. We used the Structured Clinical Interview for DSM-III-R, nonpatient version (SCID-NP; Spitzer *et al.*, 1987) to exclude subjects who met DSM-III-R criteria for any psychotic diagnosis, any depressive or anxiety disorder other than simple phobia, or substance abuse. Kappa coefficients, based upon randomly selected audiotaped interviews for 10% of the sample, indicated an interrater reliability of .74 for SCID-NP diagnoses. The interviewer also completed a standard medical history/review of systems form that was later reviewed by the project's research nurse and a physician. In addition to the above criteria, couples were eliminated if they reported any needle or hospital phobias, if they could not be scheduled for participation within 14 months of their marriage, or if one spouse could not be reached to complete the interviews. Based upon the three-stage screening protocol outlined above, 90 couples (8% of the individuals who participated in the original phone screening) were chosen for longitudinal assessment.

Participants in the Longitudinal Sample and Attrition

Fifty-three, or 58.9%, of these 90 couples had usable longitudinal data for this study. Reasons for attrition included separation or divorce ($n = 7$ couples), withdrawal from the study ($n = 5$), moving out of the vicinity ($n = 5$), and scheduling-related difficulties, especially pregnancies, that delayed follow-up assessments. In addition, three couples had missing marital quality data for more than one time point, precluding calculation of their marital quality growth models. The final sample consisted of 53 couples, 5

of whom had marital growth models available for one spouse only. Due to missing data for various predictor variables, slight variation in sample size occurs in the presentation of the results.

Statistical analyses were conducted to determine whether individuals in the longitudinal sample (n = 106) differed significantly from individuals who were lost to attrition (n = 74). In separate regression analyses, age, income, hostility, neuroticism, and initial marital quality were regressed on a dichotomous variable indicating inclusion status, i.e., whether each individual was in the longitudinal or the attrition sample (Cohen and Cohen, 1983). There were no significant relationships between any of these variables and inclusion status, or its interaction with gender (p's < .10). Similarly, inclusion status was not significantly related to the number of months couples dated or lived together (p's < .25). Chi-square analyses indicated that educational attainment did not differ by inclusion status, for either husbands or wives (p's < .15). However, 73% of the couples in the attrition sample cohabitated prior to marriage, as opposed to 53% of the couples in the longitudinal sample [$\chi^2(1, N = 90) = 3.72, p = .05$]. In addition, four couples in the longitudinal sample had at least one child by their third follow-up assessment, compared to eight couples in the attrition sample.

The sociodemographic characteristics of the longitudinal sample of 53 couples were as follows: the average age of wives and husbands was 25.06 years (SD = 3.03 years) and 26.02 years (SD = 2.74 years), respectively, with a range from 21 to 37 years. Couples were well educated: 6% were high-school graduates, 21% had some college training, 58% were college graduates, and 16% had postgraduate training. The couples' average combined income was $42,412.08 (SD = $16,216.86). Couples dated an average of 39.11 months (SD = 24.84 months) before marriage, and 28 couples (53%) lived together before marriage for a period of time ranging from 1 month to 4.5 years.

Assessment of Marital Quality, Hostility, and Neuroticism

Marital quality was assessed at four occasions by the Marital Adjustment Test (MAT; Locke and Wallace, 1959). The MAT is used widely in marital research because of its excellent reliability and validity in discriminating satisfied and dissatisfied couples (Crane *et al.*, 1990). Participants are asked to rate their happiness in their present marriage and to respond to items such as "How many outside interests do you and your spouse engage in together?" and "When you and your spouse disagree, who usually gives in?" A higher score corresponds to greater marital quality.

To obtain the initial report of marital quality, we administered the telephone version of the MAT (Krokoff, 1989). Survey data indicate that the telephone version of the MAT satisfactorily predicts MAT scores obtained by paper-and-pencil assessment (Krokoff, 1989). Because newlyweds report uniformly high levels of marital satisfaction (e.g., Markman and Hahlweg, 1993), an effort was made to secure a sample with a range of MAT scores by targeting couples where either spouse scored 118 or less or 130 or more on the MAT. However, we did not restrict our sample to extreme scorers, and examination of the distributions of husbands' and wives' MAT scores indicated that they were normally distributed. For follow-up assessments, conducted at approximately 1, 2, and 3 years subsequent to date of marriage, participants completed the pencil-and-paper version of the MAT during a laboratory visit for assessment of physiological parameters.

Participants completed the Cook–Medley Hostility Scale (Ho; Cook and Medley, 1954) at their first follow-up session. The Ho is a 50-item MMPI-derived scale with satisfactory internal consistency (Cronbach's α' s averaging .80; Smith, 1992). Individuals are asked to answer true or false to items such as "I have at times had to be rough with people who were rude or annoying" and "It is safer to trust nobody." The 1-year test–retest reliability of the Ho among young adults is .85 (Barefoot *et al.*, 1983), and the 4-year test–retest reliability among middle-aged adults is .84 (Shekelle *et al.*, 1983).

Participants completed the 53-item Brief Symptom Inventory (BSI; Derogatis and Spencer, 1982) at their first follow-up session by indicating how much discomfort (0 = not at all, 4 = extremely) problems such as "feeling fearful" and "feeling inferior to others" caused them during the past 7 days. Neuroticism was assessed by aggregating scores from the anxiety, depression, and interpersonal sensitivity subscales of the BSI. More widely used measures of neuroticism were not available in the present study. However, these three subscales of the BSI reflect the widely acknowledged dimensions of neuroticism (e.g., McCrae and Costa, 1987).

RESULTS

Hostility and Neuroticism

Husbands reported significantly more hostility (M = 15.56, SD = 6.96) than did wives [M = 12.70, SD = 4.83; $t(102) = 2.39$, $p < .05$], in accord with previous reports of gender differences in hostility (Barefoot *et al.*, 1991). In contrast, wives reported significantly more neuroticism (M = 5.45, SD = 5.05) than did husbands [M = 3.42, SD = 4.26; $t(103) = 2.22$, $p <$

.03]. Cross-spouse correlations comparing husbands' and wives' hostility scores and their neuroticism scores were not significant (r's = .10 and .16, respectively; p's < .27). Hostility and neuroticism were significantly and positively associated among wives (r = .45, p < .001) but not among husbands (r = .15, p < .30).

Marital Quality

Husbands' and wives' marital quality scores for each of the four assessment occasions are presented in Table I, along with the average number of months between marriage date and date of assessment. In the early stages of the study, marital quality was not assessed at follow-up 1; this assessment point was added later in the study and therefore the sample size at the first follow-up assessment is smaller than at the other assessment points. Cross-spouse correlations indicated that husbands' and wives' reports of marital quality were significantly and positively correlated at each assessment occasion (r's ranging from .40 to .61, p's < .01). A 4 (occasion of assessment) × 2 (spouse) ANOVA with repeated measures on both factors revealed that wives (M = 123.14, SD = 12.84) reported greater marital happiness than did husbands [M = 117.88, SD = 14.63; $F(1,19)$ = 10.69, p < .004]. These spousal differences in reported marital happiness are consistent with those observed by Markman and Hahlweg (1993). In addition, there was a significant effect of occasion of measurement [$F(3,57)$ = 12.60, p < .0001], reflecting the elevations of marital quality at initial assessment (M = 129.46, SD = 12.75) relative to the three follow-up assessments (M = 117.13, 116.92, and 114.83, respectively). Although marital quality declined over time, at the third follow-up both husbands and wives, on

Table I. Average Number of Months Married and Average MAT Scores for Husbands and Wives by Occasion of Assessment

	Occasion of assessment			
	Initial	Follow-up 1	Follow-up 2	Follow-up 3
Months married (SD; range)	5.37 (1.14; 3–8)	10.07 (2.11; 6–14)	21.78 (2.49; 17–26)	33.05 (5.89; 25–51)
Husbands' MAT (n)	127.43 (15.81) (53)	113.27 (18.87) (22)	113.43 (18.50) (49)	111.63 (18.24) (52)
Wives' MAT (n)	131.49 (12.54) (53)	121.74 (12.44) (23)	119.59 (17.53) (49)	117.90 (15.66) (53)

Note. MAT, Locke–Wallace Marital Adjustment Test. Standard deviations are given in parentheses following means.

average, remained satisfied with their marriages according to standard criteria whereby spouses scoring 100 or greater on the MAT are considered satisfied (Crane *et al.,* 1990).

Cross-Sectional Comparisons of Marital Quality and Personality

Prior to assessing longitudinal change in marital quality, we examined cross-sectional correlations between marital quality and personality. The top portion of Table II presents correlations between marital quality and hostility. As shown, there were negative, but generally nonsignificant, associations between husbands' hostility and their own reports of marital quality. Among wives, associations between hostility and marital quality were small in magnitude and nonsignificant. Overall, this pattern of results is similar to that of previous studies (Smith *et al.,* 1988). However, in contrast to previous studies (Smith *et al.,* 1988), there was some evidence of significant cross-spouse correlations, with both husbands' and wives' hostility negatively associated with their spouses' reports of marital quality for at least one time point.

The bottom portion of Table II presents correlations between marital quality and neuroticism. Husbands' neuroticism was not significantly related to their own or their wives' reports of marital quality. In contrast, wives' neuroticism was negatively, and in some cases significantly, related to their own, and their husbands', marital quality.

Predicting Longitudinal Change in Marital Quality

To assess linear change in marital quality, we computed individual growth models by regressing marital quality on occasion of assessment (1 through 4) for each participant (Francis *et al.,* 1991; Rusbult, 1983). This approach has the advantage of modeling change at an individual level and of conceptualizing change as a continuous process (Francis *et al.,* 1991). Growth models yield a slope (unstandardized regression coefficient) for each participant that captures the magnitude and direction of change in marital quality over time. In the present case, the average marital quality slope was -5.59 (SD = 6.14) for wives and -6.89 (SD = 7.15) for husbands, indicating that over the first few years of early marriage, marital quality decreased an average of 5.59 points for wives and an average of 6.89 points of husbands. Husbands' and wives' slopes were not significantly related (r = .02).

As noted previously, some marital quality slopes were estimated from three, rather than four, MAT data points; growth models were calculated

Table II. Cross-Sectional Simple Correlations Between Marital Quality and Personality by Spouse and Occasion of MAT Assessment

	Husbands' MAT by occasion of assessment				Wives' MAT by occasion of assessment			
	Initial	FU-1	FU-2	FU-3	Initial	FU-1	FU-2	FU-3
Husbands' hostility	−.26	−.04	−.26	−.32*	−.01	.05	−.28*	−.23
(*n*)	(51)	(22)	(48)	(50)	(53)	(22)	(48)	(51)
Wives' hostility	−.27*	−.43*	.00	−.03	−.19	−.18	.06	−.11
(*n*)	(53)	(22)	(49)	(52)	(53)	(23)	(49)	(53)
Husbands' neuroticism	−.05	−.34	−.05	−.01	.03	.23	.15	.07
(*n*)	(52)	(22)	(49)	(51)	(52)	(22)	(49)	(52)
Wives' neuroticism	−.42*	−.59*	−.10	−.30*	−.34*	−.33	−.24	−.35*
(*n*)	(53)	(22)	(49)	(52)	(53)	(23)	(49)	(53)

Note. FU, follow-up; MAT, Locke–Wallace Marital Adjustment Test. Hostility and Neuroticism were assessed at follow-up 1 only.
*$p \leq .05$.

only for participants who had MAT scores for both the initial assessment and the final follow-up, but some of these participants were missing MAT scores from either the first of the second follow-up. Individual growth models do not require that all participants have data for all assessment points; however, complete data do increase the reliability of the estimate of linear change (Francis *et al.*, 1991). To ensure that there was no systematic relation between personality variables and the existence of complete MAT data for all four occasions, a relation that could potentially bias the results, we computed *t* tests comparing the hostility and neuroticism scores of wives with (n = 21) and without (n = 32) complete data. The same procedure was conducted for husbands (n = 20 and 31). Results indicated no significant differences between either the hostility or the neuroticism scores of participants with and without four occasions of marital quality data.

To assess predictors of rate of change in marital quality, two hierarchical regression models were constructed. Model 1 predicted marital quality slope from husbands' personality variables, whereas model 2 predicted marital quality slope from wives' personality variables. Analyses were conducted separately for husbands and wives, and both models were used to predict husbands' slopes and wives' slopes. For model 1 and model 2, spouses' MAT scores from the initial assessment were entered on step 1 to control for the effects of initial levels of marital quality on subsequent degree of change. Again, for both models, the number of months of marriage at final follow-up was entered on step 2 to control for varying lengths of marriage. A dichotomous variable indicating the presence or absence of cohabitation was also entered at step 2; if the erosion of relationship by hostile attributes is exacerbated over time, variations in cohabitation that are left uncontrolled could potentially obscure relations between hostility and the marital quality slope. Finally, in model 1, husbands' neuroticism and hostility scores were entered on step 3. In model 2, wives' neuroticism and hostility scores were entered on step 3.

As illustrated on the left-hand side in Table III, husbands' hostility was a significant predictor of their marital quality slopes, accounting for 8.5% of the variance (sr = −.29); higher hostility was associated with smaller (more negative) slopes, reflecting greater decrements in marital quality among hostile husbands during the first few years of early marriage. In contrast, there were no significant associations between wives' personality and changes in husbands' reports of marital quality over time.

As illustrated on the right-hand side in Table III, wives' initial marital quality was a significant predictor of their satisfaction slopes, accounting for 11% of the variance (sr = −.33); wives who reported greater marital happiness early in marriage showed greater decrements over time. Further, as hypothesized, husbands' hostility was a significant predictor of wives'

Table III. Results of Hierarchical Regression Predicting Husbands' and Wives' Marital Quality Slopes from Initial MAT, Cohabitation and Months of Marriage, and Personality

Predictor	Slope of husbands' marital quality				Slope of wives' marital quality			
	Model R^2	β	t (df)	p value	Model R^2	β	t (df)	p value
Step 1: MAT, initial assessment	.06	−.26	−1.86 (1,47)	.06	.10	−.32	−2.42 (1,49)	.01
Step 2	.11				.11			
Cohabitation		.06	<1 (1,45)	.62		.03	<1 (1,47)	.81
Months of marriage at follow-up 3		−.20	−1.45 (1,45)	.15		−.04	<1 (1,47)	.72
Step 3								
Model 1: Husbands' personality	.24				.22			
Neuroticism		.26	1.80 (1,43)	.08		.18	1.28 (1,43)	.20
Hostility		−.31	−2.20 (1,43)	.03		−.37	−2.69 (1,43)	.01
Model 2: Wives' personality	.15				.14			
Neuroticism		−.13	<1 (1,44)	.45		−.19	−1.14 (1,45)	.26
Hostility		.24	1.39 (1,44)	.17		.11	<1 (1,45)	.49

Note. n's range from 49 to 51. MAT, Locke-Wallace Marital Adjustment Test. β = standardized regression coefficient upon entry. Model 1 $R^2_{\text{husbands' MAT}} = .24$, $F(5,43) = 2.67$, $p < .04$; model 2 $R^2_{\text{husbands' MAT}} = .15$, $F(5,44) = 1.53$, $p < .21$. Model 1 $R^2_{\text{wives' MAT}} = .22$, $F(5,43) = 2.46$, $p < .05$; model 2 $R^2_{\text{wives' MAT}} = .14$, $F(5,45) = 1.43$, $p < .24$.

marital quality slope, accounting for 13% of the variance ($sr = -.36$); husbands' hostility was associated with decreases in wives' marital quality during the first few years of early marriage. In contrast, neither wives' neuroticism nor wives' hostility was significantly associated with changes in their reports of marital quality.[3]

DISCUSSION

The results of the present study indicate that during the early years of marriage, husbands' hostility is associated with significant linear decreases in their own, and their wives', marital quality; these associations are not due either to passive decay from the passage of time or to the correlated variable of neuroticism. Observational and self-report studies of marriage consistently have identified "negative" marital interactions, i.e., those characterized by conflict, anger, and hostility, as central to spouses' marital satisfaction (e.g., Huston and Vangelisti, 1991). Because the interpersonal orientation of hostile individuals renders them prone to such interactions, we suspect that they are key to understanding the present findings. For example, the deterioration of hostile husbands' marital quality may reflect the operation of a self-fulfilling prophecy, or expectancy effect (Smith and Anderson, 1986). Hostile individuals are mistrustful and suspicious of others. These expectancies may activate negative behavior on the part of others, including wives, and this behavior may then feed back to the husband and further decrease his satisfaction with marriage. Similarly, hostile men exhibit conflictive behavior and attributions of blame during marital interaction (Smith *et al.,* 1990), characteristics that over time may diminish wives' marital satisfaction (Huston and Vangelisti, 1991). Although consistent with the empirical literatures on marriage and trait hostility, these interpretations must be considered speculative because we did not assess expectancies or conflictive behaviors.

In the interpretations outlined above, the erosion of marital quality among hostile husbands and their wives is presumed to be the direct effect of specific cognitions and behaviors associated with trait hostility and activated during social interaction. Alternatively, the effects of hostility and any

[3]Because anger and mistrust also have been identified as aspects of neuroticism (see McCrae and Costa, 1987), we computed a second neuroticism score that included the hostility subscale of the BSI. When analyses were conducted using this score, the pattern of significance for all statistical tests was identical, except that husbands' Ho and neuroticism scores were significantly associated ($r = .27$, $p < .05$). Thus, even in this conservative analysis, in which a measure of neuroticism including hostility was controlled for prior to testing the effects of hostility as assessed by the Cook–Medley Ho, husbands' Ho was a significant predictor of their own, and their wives', marital quality slopes.

associated negative interactions may be mediated by spouses' global assessment of relationship quality. For example, consider the association between husbands' hostility and the accelerated decline in wives' marital satisfaction observed in the present study. Perhaps it is hostile husbands' lower levels of marital quality that lead to decreased marital quality among their wives; this possibility is suggested because spouses' reports of marital quality are significantly and consistently associated. Of course, these interpretations are not mutually exclusive; one spouse's hostility may be both directly and indirectly associated with the other spouse's marital happiness. Research designed to assess these, and other, pathways will be critical for understanding the processes by which hostile traits erode relationship quality.

The gender asymmetry apparent in the present study also deserves attention. Husbands' hostility was significantly associated with wives' marital quality slope, but wives' hostility was not significantly associated with husbands' marital quality slope. These results are consistent with reports that women's, more so than men's, relational satisfaction is affected by overt hostile behaviors (Gaelick *et al.*, 1985). These effects may be due to gender differences in emotion processing in which women are more accurate than men in perceiving negative messages (Noller, 1980). It is equally plausible that men and women differ in the frequency, intensity, or clarity of overt hostile behaviors (a possibility supported by studies of the behavioral correlates of hostility) or that wives may better remember husbands' negative behavior (Huston and Vangelisti, 1991). Alternatively, because gender is confounded with social role in marital studies, differences in emotion processing may be mediated by psychological aspects of marital role. For example, men traditionally have more power in marriage than do women, a role characteristic that may render them less responsive to their wives' emotional states (Huston and Vangelisti, 1991).

Whether due to gender per se or gender-correlated factors, this asymmetry parallels emerging trends in the literature concerning gender, social relationships, and physical well-being (Shumaker and Hill, 1991). For women, the *quality* of social relationships is of particular significance for well-being, an observation consistent with women's sensitivity to the emotional characteristics of social interaction. Thus, a hostile spouse may be a risk factor for women's physical well-being. In contrast, men's well-being is most consistently associated with the existence, rather than quality, of close relationships, an observation consistent with men's tendency to be relatively less responsive to emotional characteristics of relationships. Although the quality of marriage is less important for the well-being of men, married men draw emotional support primarily from their wives, as opposed to other relationships (Shumaker and Hill, 1991). Because there is some evidence that declining marital satisfaction presages marital dissolution (Kurdek, 1993),

hostile husbands may be at elevated risk of losing their primary support as their own, and their wives', satisfaction with marriage erodes. This situation may be particularly risky because if men are less likely to attend to emotional signs of a faltering marriage, then they may create fewer opportunities to repair the situation. The social–psychological processes involved in emotional expression and perception during social interactions will be important for understanding how personality, gender, and relationship roles interact to create vulnerabilities to well-being.

The present study has a number of limitations that warrant consideration. On average, the greatest decrement in marital quality occurred between the initial assessment and the first follow-up period. Although this is typical of decreases in marital happiness observed during early marriage (Markman and Hahlweg, 1993), the possibility that this decrement reflects variation in assessment method must be considered. Initial assessments of marital quality were obtained with a telephone interview version of the Locke–Wallace, whereas follow-up assessments were obtained from the pencil-and-paper version. The telephone version of the MAT has satisfactory predictive validity for wives; using both paper-and-pencil MAT and marital interaction as criteria, wives' telephone MAT scores accurately classify approximately 88% of marriages as either distressed or nondistressed (Krokoff, 1989). In addition, comparisons between the telephone and the paper-and-pencil version of the MAT indicate that the rank order of MAT scores is highly consistent across both administration formats for both husbands and wives (Gano-Phillips and Fincham, 1992). On the other hand, the reports of marital quality that individuals provide over the phone are an average of 4 points higher than those they provide using a paper-and-pencil format (Gano-Phillips and Fincham, 1992). Thus, the high levels of satisfaction we observed at the initial assessment are likely to be somewhat elevated due to method of assessment. However, the magnitude of difference documented in previous research suggests that it is unlikely that method of assessment can account for all of the elevation we observed in the initial MAT scores. A portion of it probably reflects early marital happiness in our highly screened sample of newlyweds who were exceptionally mentally and physically healthy.

How could MAT score elevations due to assessment method affect the results presented here? For this to be the case, it would be necessary to hypothesize that hostile husbands, and their wives, are more motivated to present a positive image of their marriages over the phone than are low hostile individuals, a process that could have resulted in spurious associations between husbands' hostility and linear decreases in marital quality. This impression management process is antithetical to the hostile personality, one that is cynical and interpersonally negative by definition, and it

is not consistent with evidence that hostility is significantly and negatively associated with defensiveness (Smith and Frohm, 1985). On the other hand, mistrusting, suspicious motives may have led hostile husbands to report greater marital quality over the phone, when their sense of anonymity was lessened (Gano-Phillips and Fincham, 1992). This process could have contributed to hostile husbands' negative marital quality slopes, but not to the negative slopes observed among wives of hostile husbands. Further, there is no immediately apparent reason why wives of hostile husbands would exaggerate the positive qualities of their marriages over the telephone. Thus, variations in marital quality assessment method may have affected the findings reported for hostile husbands, but it seems less likely that they affected the findings reported for the wives of hostile husbands.

Similarly, it is important to consider whether assessment of hostility at the first follow-up, rather than at initial assessment, posed a threat to internal validity. For this to be the case, it would be necessary to posit that spouses' declining marital quality during the 5 months that elapsed between the initial assessment and the first follow-up increased husbands' trait hostility. Among young and middle-aged adults, the Ho has a high test–retest reliability over a course of up to 4 years (Barefoot *et al.*, 1983, Shekelle *et al.*, 1983), making it doubtful that trait hostility scores would have changed appreciably in the 5 months intervening between initial MAT assessment and follow-up. Further, a spouse's marital quality early in marriage does not predict his or her negative behavior 2 years into marriage (Huston and Vangelisti, 1991). However, longitudinal research has shown that husbands' initial marital quality predicts their later attributions of blame regarding their wives' negative behaviors (Fincham and Bradbury, 1993) and that wives' initial marital quality predicts husbands' later expression of negative marital behaviors (Huston and Vangelisti, 1991). Although these cognitions and behaviors are similar to those of hostile husbands, it is questionable whether initial marital quality levels that lead to changes in attributions and behaviors specific to marital interaction would also lead to changes in the more global interpersonal attributions and behaviors that are assessed by personality measures. More plausibly, early levels of marital quality may create a relational context that facilitates or inhibits expression of preexisting hostile traits. Overall, the interpretation of the present results as reflecting the operation of trait hostility on marital quality is consistent with literature concerning the effects of negative behavior on marriages and is more parsimonious than positing rapid changes in a highly stable personality trait. Nonetheless, future studies should assess personality coincident with initial marital assessment or, preferably, prior to marriage. Further, in the tradition of person × situation models, future research should examine relationship characteristics that might facilitate or inhibit the expression of hostile tendencies.

Finally, caution should be used in generalizing from this highly selective sample, which represented less than 5% of individuals who participated in the original phone screening and less than 3% of individuals who originally received postcards. Our sample was composed of healthy couples of a relatively high socioeconomic status, in their midtwenties to midthirties, all of whom were in the early years of their first marriage. Relatedly, the average hostility score in the present study was approximately 5 points lower than those reported in other large sample studies (e.g., Barefoot *et al.,* 1991). Associations between hostility and decrements in marital quality may be similar but of a greater magnitude among individuals with higher levels of hostility who are less happily married. It is possible also that different demographics could lead to qualitatively different results, perhaps by influencing the behavioral manifestation of hostile personality characteristics. For example, different patterns of marital conflict interaction have been observed among blue- and white-collar employees (Krokoff *et al.,* 1988). Further, just as there is a "sleeper" effect for hostility in the very early months of marriage, associations between hostility and marital quality may not remain invariant across the middle and later stages of marriage.

In conclusion, the present findings support the notion that trait hostility is a risk factor for deterioration of relationship quality, thereby providing partial support for the psychosocial vulnerability model of hostility and disease. Hostility among husbands is associated with accelerated erosion of their own and their wives' satisfaction with an important social relationship, revealing an avenue by which hostility may increase vulnerability for poor mental and physical well-being.

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