

# Psychosocial Moderators of Emotional Reactivity to Marital Arguments: Results from a Daily Diary Study

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**SUMMARY.** Several studies document that marital arguments negatively affect mental health. Yet it is also evident that considerable variability exists in emotional reactivity to marital arguments. One such piece of evidence is that wives are more emotionally reactive than are husbands. Using a close relationships perspective, this study explores reasons for this variability by identifying psychosocial characteristics of individuals and their marriages. The analysis is based on a daily diary study of 166 married couples who completed questionnaires each day for six weeks. These couples represent a subsample of a prior general population community panel study. Results show that wives' emotional reactivity is best explained by a model that includes extraversion, marital

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trust, being in a first marriage, and the percentage of total family income earned by the wife. Husbands' emotional reactivity is best explained by how frequently the couple argues on average, support from relatives, acute life events, and total family income. The paper concludes with a discussion of the implications for research on the mental health effects of marital distress. [Article copies available for a fee from The Haworth Document Delivery Service: 1-800-HAWORTH. E-mail address: <docdelivery@haworthpress.com> Website: <<http://www.HaworthPress.com>> © 2002 by The Haworth Press, Inc. All rights reserved.]

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Marriage provides a peaceful and satisfying haven for many people and is known to provide significant protection from many psychological problems (Coyne & Downey, 1991). However, studies have established an association between marital conflict and such psychopathological conditions as depression (Beach et al., 1998), eating disorders (Van den Brouke, Vandereycken, & Norre, 1997), and alcohol abuse (O'Farrell, Choquette, & Birchler, 1991). Also, Paykel and colleagues (1969) found that the most common life event preceding the onset of clinical depression was an increase in marital arguments. Further, it has been suggested that chronic emotional upset or reactivity stemming from marital arguments is the key link between interpersonal conflict and psychological distress (Lazarus, 1999; Lazarus & Folkman, 1984). On the other hand, it is obvious that many people are able to avoid psychological distress in the face of considerable marital conflict. However, it is less clear what factors may protect or make marital partners more vulnerable to the negative effects of marital arguments. The present study is a preliminary attempt to identify psychosocial factors that may buffer (or exacerbate) emotional reactivity to marital conflict. The study utilizes a 6-week daily diary study of 166 marital couples all of whom participated in a previous study of life events, social support, coping, and mental health. During the diary portion of the study, participants completed daily questionnaires on marital arguments and psychological distress.

Our conceptual perspective in this study draws heavily on the Close Relationships Framework (Kelley et al., 1983). According to this framework, the basic data of a dyadic relationship are chains of behavioral, cognitive and affective events that are causally connected between two individuals over time. This framework contends that the

various stable characteristics of marital partners, their marriages, and the environment serve as causal conditions for these chains of events. These characteristics exist on four levels: individual, relationship, social environment, and physical environment. The four levels are viewed as reciprocally tied to each other. Figure 1 illustrates the application of the Close Relationships Framework to the present study. The bottom portion of the figure shows the daily linkages between marital arguments (i.e., behavioral events) and psychological distress (i.e., affective events). The solid arrows represent reactivity to marital conflict. Emotional reactivity is operationalized as the likelihood an individual will report psychological distress on days they have a marital argument compared to days they do not have an argument. The top of the figure illustrates how stable individual, relationship, and social environmental variables serve as possible moderators of the relationship between marital arguments and the accompanying daily psychological distress. The dotted arrows in the figure illustrate this moderating process. Evidence about how these types of psychosocial characteristics may moderate reactivity to marital arguments is provided below.

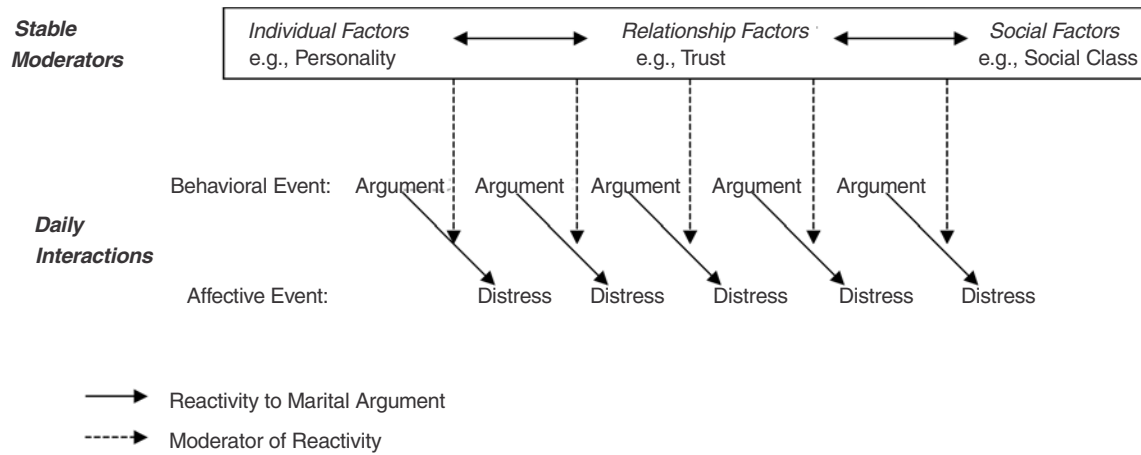
### **INDIVIDUAL FACTORS**

*Gender.* The gender of marital partners is one factor that is related to the emotional distress that accompanies marital arguments. Research has demonstrated that emotional distress which stems from a marital argument is more pronounced for wives than husbands (Almeida & Kessler, 1998; Bolger, DeLongis, Kessler, & Schilling, 1989a). This suggests that wives may be more reactive than husbands to marital arguments. Consequently, in the present study, we examine various moderators of the argument-distress relationship separately by gender.

*Personality.* It is expected that various personality factors of marital partners will play a role in the association of emotional reactivity to marital arguments. For example, people's positive views of themselves should provide some protection against stress. In fact, a considerable amount of research has demonstrated the role of *mastery* and *self-esteem* in helping people cope with stress in their lives (Pearlin, 1999), including marital arguments (Pearlin & Schooler, 1978).

Other personality factors may affect how people process and interpret the stress in their lives. Personality theorists have identified *neuroticism* as one potentially important characteristic that affects how people interpret and react to their daily experiences (Costa & McCrae,

FIGURE 1. Close Relationships Framework Applied to the Examination of Emotional Reactivity to Marital Arguments.



1992). People with low levels of neuroticism tend to experience life more rationally and seem relatively impervious to the strains of everyday life. Research has shown that people high in neuroticism engage in more frequent conflict (Bolger & Zuckerman, 1995), have higher levels of unpleasant affect during social interaction (Barrett & Pietromonaco, 1997), and engage in less agreeable behavior (Cote & Moskowitz, 1998).

Others have suggested that people's orientations toward others in the form of *interpersonal dependency* and *introversion* may exacerbate emotional reactivity to stressful events such as marital conflicts (Barnett & Gotlib, 1988). Consistent with that suggestion, one study demonstrated that feelings of interpersonal dependency are related to the onset of intense depression (Stader & Hokanson, 1998), while another found that dependent individuals had significant increases in dysphoria following negative interpersonal events (Lakey & Ross, 1994). Similarly, introverts also have been found to be more susceptible to post-traumatic stress disorder (Schnurr, Friedman, & Rosenberg, 1993) and to react with more physiological arousal to social stress (Hinton & Craske, 1977) than extraverts.

Finally, it is plausible that one's *sex role orientation* may predispose marital partners to certain ways of reacting to arguments. For example, past research has shown that couples who hold traditional sex role orientations tend to have less satisfying relationships than those with non-traditional orientations (Shaver, Papalia, Clark, & Koski, 1996). More important to this study, wives in traditional marriages reported more negativity (feeling sad, worthless, shy, etc.) in their lives than in non-traditional types of marriages. Unfortunately, similar data for husbands are not available.

### **RELATIONSHIP FACTORS**

*Marital history.* We know of no studies that have addressed the impact of marital duration on reactivity to marital conflict. However, it has been shown that the impact of frequent marital arguing on divorce increases with time in the marriage (McGonagle, Kessler, & Gotlib, 1993), suggesting that arguments get more severe over time. Such evidence raises the possibility that emotional reactivity may increase with longer duration of marriage. In addition, although remarried individuals disagree less frequently than first marrieds, the higher divorce rates of remarried couples suggest that emotional reactivity may be greater among that group.

*Economic contribution of spouses.* It has been suggested that marital dynamics are affected when wives earn a significant portion of the total family income. Specifically, husbands may feel threatened in their roles as primary wage earners when wives contribute significantly to the family income. It has been demonstrated that as wives' income increases relative to total household income, marital satisfaction decreases (Moore & Waite, 1981). This may produce an interpersonal climate where emotional reactivity and arguments are likely to increase.

*Trust and intimacy.* We know of no studies that have addressed the ability of marital trust and intimacy to ameliorate emotional reactivity to arguments. However, marital trust and intimacy do moderate the effects of stresses in other role domains such as work (e.g., House, 1981). In addition, several studies have demonstrated that individuals positively disposed toward a partner tend to make relatively benevolent attributions about their partners' negative behaviors (Holmes & Rempel, 1986). Thus, a trusting marital environment may engender a positive climate that leads to less emotional reactivity.

*Frequency of arguments.* There is evidence that couples who have frequent negative interactions are more reactive to recent negative marital interactions than couples whose negative interactions are rare (Jacobson, Follete, & McDonald, 1982). This suggests that the *frequency of couples' arguments* (i.e., chronicity) will affect reactivity to any single argument.

*Social support.* We know of no study that has directly examined the influence of social support on reactivity to marital arguments, although the stress-moderating effect of social support has been documented in studies of more global measures of stress (Cohen & Syme, 1985). Research findings demonstrating strong effects of friend and relative support on well-being (e.g., Holahan & Moos, 1981) raises the possibility that non-spousal support may moderate the effects of marital stress.

### **SOCIAL ENVIRONMENT FACTORS**

*Stress.* The evidence is mixed as to whether emotional reactivity to marital arguments is magnified by the existence of other *acute or chronic stressors* in a person's life. Consistent with the existence of such an effect, Brown and Harris (1978) found that experiencing an acute stressor in the context of a poor marriage increased the risk of major depression. However, McGonagle and Kessler (1990) found no evi-

dence that the distressing effects of chronic marital problems were exacerbated by acute stresses.

*Children.* Our review of the literature failed to find any research that directly examined how the presence of children affects vulnerability to marital arguments. One line of research has shown that the addition of children predicts decreases in marital quality (Belsky & Pensky, 1988) and increases in psychological distress (McLanahan & Adams, 1987), inferentially suggesting that children may exacerbate the emotional impact of marital arguments. Relatedly, the close spacing of children (child density), as well as the number of children, have been suggested as factors that influence marital satisfaction (Figley, 1973). The alternative possibility, that children may decrease emotional reactivity, is suggested by evidence that multiple roles promote well-being because negative effects of stresses in one role are offset by positive experiences in other roles (Barnett & Baruch, 1985).

*Socioeconomic status.* Research on socioeconomic differences in marital interaction has shown that blue-collar couples are more reactive to marital conflict than white-collar couples and that this difference can be traced to the higher levels of job distress of blue-collar workers (Krokoff, Gottman, & Roy, 1988). This finding is supported by further research showing that level of education reduces the effects of marital strain through effective coping (Pearlin & Schooler, 1978).

In summary, the present study provides some preliminary evidence concerning the within-person covariation of marital arguments and distressed mood, as well as how the psychosocial characteristics described above moderate this covariation. The findings contribute to the literature for two reasons. First, data from the larger project allowed us to examine possible moderators of the links between marital arguments and emotional distress that exist at various levels of analysis. Such studies have not yet been conducted. This may lead to the development of more refined research questions and hypotheses in subsequent research. Second, the method of data collection used a daily diary procedure over six weeks to gather information on day-to-day events and reactions in marriage as they naturally occur. This method is an improvement on retrospective designs that are subject to substantial recall biases as well as laboratory studies that are prone to problems of external validity (Larson & Almeida, 1999).

## METHOD

### *Sample and Design*

Respondents were husbands and wives consisting of 166 married couples, all of whom had previously participated in a community survey of stress and coping. The original sample consisted of 778 intact couples from the Detroit metropolitan area. The response rate in the original survey was 73%. Of these, we attempted to recontact and recruit 489 couples by telephone to participate in a diary study which took place 3 years later (the remaining 289 couples were excluded due to participation in an earlier study). We were able to trace and recruit only 166 couples in which both spouses agreed to participate, yielding a couple-level response rate of 34%. A nonresponse adjustment weight was constructed to compensate for two types of nonresponse. First, prior analysis found very few differences between couples in the diary subsample and those in the larger community survey (see Bolger, DeLongis, Kessler, & Wethington 1989a). Diary couples, however, tended to report less marital conflict and slightly lower levels of distress. Second, the data were weighted to adjust for these differences. The data were also weighted to correct for misrepresentation of the target population.

Respondents completed a short daily diary questionnaire on each of 42 consecutive days (6 weeks). Diaries were distributed and returned by mail each week. Seventy-four percent of the respondents completed the full set of 42 diary days and 89% completed 28 days or more. Data were obtained on 12,054 diary days in all and on 11,578 days on which both husband and wife in a couple reported. We base our analysis on the latter subsample (see Bolger et al., 1989a for more details on the design and sample).

### *Measures*

*Outcome variable.* The outcome variable was extent of psychological distress as assessed daily using an inventory of 18 mood items from the Affects Balance Scale (Derogatis, 1975) designed to measure anxiety (e.g., nervous, tense, afraid), hostility (e.g., irritable, angry, resentful) and depression (e.g., helpless, worthless, depressed). Based on their emotional state over the past 24 hours, respondents rated each of the 18 items on a 4-point scale ranging from "not at all" to "a lot." Responses to all items were combined and rescaled to create a summary measure of



distressed mood which ranged from 0 (all items endorsed “not at all”) to 4 (all items endorsed “a lot”). The summary measure was then standardized. The scale had high internal consistency (Cronbach’s  $\alpha = .91$  for husbands and  $.92$  for wives).

*Predictor variables.* Described below are two categories of predictor variables used in the analysis. The first was the occurrence of a marital argument on a given day, based on information obtained from the daily diary survey. The second category consisted of psychosocial characteristics obtained from the original baseline survey that may moderate the relation between marital arguments and psychological distress.

*Marital arguments.* The diary included a checklist of 21 stressors that occurred over the past 24 hours, including arguments with spouse, children and others. Respondents checked which arguments, if any, they experienced over the prior 24 hours. If multiple arguments occurred, respondents indicated the argument that was the most serious one of their day. We focus here on arguments with the spouse that were either the only argument of the day or, in the case of multiple arguments, the most serious argument. A prior report showed that nearly all respondents in the diary subsample reported having a marital argument at least some of the time, with the vast majority reporting average frequencies between one to two marital arguments per month (McGonagle, Kessler, & Schilling, 1992).<sup>1</sup> Marital arguments were dummy-coded (0 = no, 1 = yes).

*Moderator variables.* Consistent with the Close Relationships Framework (Kelley et al., 1983), we included possible moderator variables drawn from the individual, relationship, and social environment levels. The individual variables measured were mastery, self-esteem, neuroticism, extraversion, interpersonal dependency, and sex role orientation. *Mastery* was measured with four items ( $\alpha = .61$ ) from Pearlin and Schooler (1978). Respondents’ answered on a 4-point scale of “strongly agree” to “strongly disagree.” For example, one item was “I often feel helpless in dealing with the problems of life.” *Self-esteem* was tapped with six items ( $\alpha = .72$ ) from Rosenberg (1965) using the same agree-disagree format as above. An example item was “At times I think I’m no good at all.” *Neuroticism* was measured with 11 items ( $\alpha = .78$ ) from Eysenck and Eysenck (1976). Items asked respondent’s to indicate a “yes,” “no,” or “sometimes” response to a series of questions such as, “Would you call yourself a nervous person?” *Extraversion* was assessed by 9 items ( $\alpha = .80$ ) from Eysenck and Eysenck (1976). The response format was the same as for neuroticism. One item was “In general, do you enjoy meeting new people?” *Interpersonal dependency* was tapped by six items ( $\alpha = .61$ ) using a four-point agree-disagree

response format as described above (Hirschfeld et al., 1977). A sample item was "The idea of losing a close friend is terrifying to me." *Sex-role orientation* was measured with three items ( $\alpha = .69$ ) from Huber and Spitze (1983) and Mason, Czajka, and Arber (1976), again on an agree-disagree continuum. One item read "It is more important for a wife to help her husband's career than to have one herself." All of the individual variables were standardized prior to analysis.

The relationship variables included several single-item indicators: *length of marriage*; *first vs. remarriage*; *percent of wives income to total income*; *average frequency of arguments*; *marital intimacy* ("how much can you open up to your spouse about things that are really important to you?"); and *marital trust* ("how much can you trust your spouse to keep his/her promises to you?"). In addition, two short 4-point scales (two items each) had respondents indicate the level of *perceived support from friends* (e.g., "express interest in how you are doing") and *perceived support from family* (e.g., "make you feel that they care about you"). Participants indicated the level of support on a scale of "often to never." Coefficient alphas for these support measures were .60 and .74.

The social environment variables were: *number of children ages 0-12*; *number of children ages 13+*; *number of children outside home*; *spacing of children*; *child density*; *total income*, and *years of education*. Lastly, *chronic difficulties*; and *acute life events* were assessed using 87 items from McGonagle and Kessler (1990) that assessed ongoing difficulties (e.g., persistent financial problems) and acute life events (e.g., death of a close friend) not related to the marriage. All of the moderator variables were standardized to a mean of 0 and variance of 1.

### ***Analysis Strategy and Statistical Model***

The moderating effects of psychosocial characteristics on the relationship between marital arguments and daily mood were analyzed using Hierarchical Linear Modeling (HLM; Bryk & Raudenbush, 1992; Mason, Wong, & Entwistle, 1984), a method that allows simultaneous estimation of both (a) a separate within-person model of regression slopes and intercepts for each respondent and (b) a single between-person model in which the within-person slopes and intercepts are treated as dependent variables regressed on person-level predictor variables. For the present analyses the within-person model assesses the daily covariation of distressed mood and occurrence of a marital argument. This model can be expressed as:

$$DM_{it} = a_{0i} + a_{1i}ARG_{it} + e_{it} \quad (1)$$

where  $DM_{it}$  is the Distressed Mood of Person<sub>*i*</sub> on Day<sub>*t*</sub>,  $ARG_{it}$  is a dummy variable indicating whether Person<sub>*i*</sub> experienced a marital argument as the most serious argument of Day<sub>*t*</sub> (coded 1 for those who reported yes and 0 for those who reported no),  $a_{0i}$  is the intercept for Person<sub>*i*</sub>'s level of distressed mood,  $a_{1i}$  is the slope indicating the effects of marital arguments, and  $e_{it}$  is the random component or error associated with Distressed Mood of Person<sub>*i*</sub> on Day<sub>*t*</sub>.

A distinctive feature of HLM is that the intercepts and slopes can vary across persons. Therefore, between-person models of within-person variability can be formulated. In our analysis, the intercepts and slopes in Equation (1) were modeled to vary as a function of the moderator variables as follows:

$$a_{0i} = b_0 + b_1MOD_i + d_i \quad (2)$$

$$a_{1i} = b_2 + b_3MOD_i + g_i \quad (3)$$

Equations 2 and 3 show that level of distressed mood ( $a_{0i}$ ) and the slope of distressed mood on arguments ( $a_{1i}$ ) are functions of a moderator and a random component. Substituting Equations 2 and 3 into Equation 1, a single multi-level equation can be obtained showing daily distressed mood as a function of a moderator, marital arguments, and their joint effects:

$$DM_{it} = (b_0 + b_1MOD_i + d_i) + (b_2 + b_3MOD_i + g_i)ARG_{it} + e_{it} \quad (4)$$

which reduces to:

$$DM_{it} = b_0 + b_1MOD_i + b_2ARG_{it} + b_3(MOD_i \times ARG_{it}) + d_i + g_iARG_{it} + e_{it} \quad (5)$$

Equations 4 and 5 represent conventional linear models except that the structure of the random component is more complex. As a result of this complexity, neither the  $b$  coefficients nor the covariances among the random components can be appropriately estimated using standard linear regression methods such as OLS. Recent developments in statistical theory and computation, however, allow for maximum-likelihood estimation of these coefficients using the EM algorithm (Dempester, Laird, & Rubin, 1977). This estimation procedure takes into consideration the

amount of data available from each person, so that missing data on some days are taken into account by giving more weight to persons with complete data than those with some missing data.

Control variables were included in the model to adjust for time-varying correlates of arguments and mood. These include day of the week (six dummy variables) and the linear and quadratic forms of a variable defining the number of days that had elapsed since the respondent first began filling out the diary.

Day of the week was controlled because prior research has documented systematic day-of-the-week variation in mood (e.g., Stone, Hedges, Neale, & Satin, 1985). We controlled for length of time in the study in order to capture any tendency of respondents to change how they completed the diaries in response to boredom, novelty, or fatigue. Previous research has shown that the number of stressors reported by diary respondents declines over time (DeLongis, Folkman, & Lazarus, 1988).

The first step of our analysis was to assess the bivariate relationships among gender, marital arguments and the moderator variables. In the second step, we estimate the moderating effects of the psychosocial characteristics on the relationship between marital arguments and daily mood in 23 separate models (i.e., one model per moderator) using the statistical model described above. In the third step, all significant moderators in the previous analyses were assessed simultaneously to choose best-fitting models.

## RESULTS

### *Gender and Psychosocial Characteristics: Bivariate Associations*

We initially examined whether the psychosocial variables were associated with gender. Variations in these characteristics are generally what we would expect based on prior research (see Table 1). Wives reported significantly higher levels of neuroticism [ $t(165) = 3.2, p < .01$ ], extraversion [ $t(165) = 4.0, p < .01$ ], interpersonal dependency [ $t(165) = 3.3, p < .01$ ], and nontraditional sex-role orientation [ $t(165) = 2.8, p < .01$ ] than did husbands. There were no sex differences in levels of mastery or self-esteem. Husbands and wives reported equal levels of marital intimacy and wives reported significantly higher levels of marital trust than husbands [ $t(165) = 4.8, p < .01$ ]. Wives also reported higher levels of perceived support from friends and relatives [ $t(165) = 6.6, p < .01$ ];

TABLE 1. Description of the Psychosocial Moderator Variables

Moderator Variables	Husband		Wife	
	M	SD	M	SD
<i>A. Individual Factors</i>				
Neuroticism	-.18	.98	.06	.96
Extraversion	-.20	1.0	.10	.94
Mastery	.08	.98	-.04	.93
Self-Esteem	.10	.96	-.05	.91
Interpersonal Dependency	-.12	.95	.13	1.01
Sex-Role Orientation	.01	.92	.22	.94
<i>B. Relationship Factors</i>				
Marital Intimacy	.80	.21	.84	.22
Marital Trust	.01	.68	.31	.88
Perceived Friend Support	-.25	1.11	.25	.84
Perceived Relative Support	-.11	1.12	.14	.89
Average Number of Marital Arguments	.10		.10	
Years Married	17.11	12.31		
First- vs. Remarriage	.84	.37		
Percent Wives' Income	.17	.18		
<i>C. Social Environmental Factors</i>				
Chronic Difficulties	.44	.59	.45	.60
Acute Life Events	.07	.28	.09	.31
Number Children Aged 0-12	.74	1.10		
Number Children Aged 13>	1.68	1.00		
Mean Number Children Away from Home	1.11	1.62		
Child Spacing	3.41	1.92		
Child Density	.26	.22		
Total Income	47724	23745		
Years Education	13.61	2.51	13.42	2.01

N = 166 couples

$t(165) = 3.3, p < .01$ ]. There were no sex differences in reports of chronic and acute stress or in years of education.

### ***Moderating Effects on the Relationship Between Marital Arguments and Daily Mood***

Table 2 presents results from 23 separate HLM equations testing buffering effects of psychosocial characteristics on husbands' and wives' daily mood. The coefficients in the table are the slope moderating effects ( $b_3$ ) described in Equation 3. In such a large series of tests, it is likely that a few coefficients will be significant merely by chance. To adjust for this, we used a more conservative criterion for statistical sig-

TABLE 2. Gross Moderating Effects of Daily Reactivity to Marital Arguments

Variable	Husbands ( <i>n</i> = 5205 days)		Wives ( <i>n</i> = 5331 days)	
	b	t	b	t
<i>A. Individual Factors</i>				
Self-esteem	.024	2.6*	-.061	-4.2**
Mastery	.023	2.4	-.055	-4.2**
Dependence	-.027	-2.6*	.047	3.7*
Neuroticism	.007	0.9	.057	4.8**
Extraversion	-.011	-0.9	-.068	-5.2**
Sex-Role Orientation	.032	3.0*	.024	1.7
<i>B. Relationship Factors</i>				
Marital Trust	-.008	-1.4	-.034	-3.1*
Marital Intimacy	.019	2.1	-.058	-4.2**
Friend Support	-.005	-0.6	.011	0.8
Relative Support	.026	2.8*	-.023	-1.8
Average Number of Marital Arguments	.045	5.2**	.006	0.5
Years Married	-.012	-1.1	.023	1.7
First- or Remarriage	-.002	-0.2	-.071	-5.0**
Percent Wives' Income	.012	1.3	.057	4.2**
<i>C. Social Environmental Factors</i>				
Chronic Difficulties	-.013	-1.4	.013	1.1
Acute Life Events	.025	2.6*	.011	0.8
Number Children Aged 0-12	.031	3.5*	-.026	-2.2
Number Children Aged 13>	.015	1.6	-.013	-1.0
Mean # Children Away from Home	-.026	-2.8*	.012	1.1
Child Spacing	.003	0.3	-.021	-1.6
Child Density	-.002	-0.2	.041	3.5*
Total Income	.022	2.6*	-.016	-0.9
Years of Education	.013	1.2	.028	2.0

\* $p < .01$ , \*\* $p < .001$

nificance ( $p < .01$ ). It is also important to evaluate the significance of the overall series of 23 coefficients rather than focus on separate coefficients. We did this by considering the significance of the moderators across the entire set of 23 equations. Among wives, 10 of 23 buffering effects were significant at the .01 level, which is considerably more than we would expect by chance. Nine of these effects are significant among husbands.

As shown in Table 2, the pattern of significant results for wives within each of the three categories were generally in the directions that we would expect based on prior research. The coefficients reflecting wives reactivity to a marital argument decreased with increases in self-esteem, mastery, extraversion, marital trust and intimacy, and be-

ing first-married. Reactivity was exacerbated by high levels of dependency, neuroticism, many children relative to years married, education, and percentage of total family income earned by the wife. Extraversion and being first-married have the most powerful effects on wives reactivity. For husbands, reactivity to spousal arguments is buffered by increases in dependency and number of children outside the home and exacerbated by high self-esteem, a non-traditional sex-role orientation, support from relatives, average number of marital arguments, frequent life events, young children in the home, and high household income. High levels of average number of marital arguments most powerfully predict husbands' reactivity.

In the next analysis, the subset of significant moderators that best explained distressed mood was chosen by simultaneously entering all significant moderators from the previous analysis into a single HLM equation. This analysis allowed us to examine the unique moderating effects of each variable while controlling their relations to each other. The results presented in Table 3 showed that reactivity to marital arguments was best explained by a 4-variable model for both husbands and for wives. No other buffering effects uniquely contributed to these models at the .01 level. The coefficients presented in the table are interactions between the presence of a marital argument on a given day and the significant moderator controlling for other moderators. Among husbands, daily reactivity to a marital argument increased as the relative

TABLE 3. Net Moderating Effects of Daily Reactivity to Marital Arguments

Variable	Husbands ( <i>n</i> = 5205 days)	
	b	t
Relative Support	.021	2.1*
Acute Life Events	.025	2.2*
Average Number Marital Argument	.047	4.9***
Total Income	.035	3.1**
Variable	Wives ( <i>n</i> = 5331 days)	
	b	t
Extraversion	-.051	-3.6***
Marital Trust	-.032	-2.0*
First- vs. Remarriage	-.067	-3.7***
Percentage of Income Earned by the Wife	.035	2.1*

\* $p < .01$ , \*\* $p < .001$ , \*\*\* $p < .0001$

support, acute life events, average frequency of marital arguments and household income increased. Wives' reactivity was exacerbated by higher contributions to household income and attenuated by increases in extraversion, marital trust, and being in their first marriage.

### **DISCUSSION**

The results of the present study provide information about characteristics associated with vulnerability to a particularly debilitating form of daily stress. Such information may increase our understanding about how risk factors and resources that affect day-to-day distress are implicated in the development and course of psychiatric disorder. In general, these results reveal that emotional reactivity to marital arguments is highly dependent on a range of psychosocial factors. Indeed, we found evidence of gross stress-buffering effects in each of the three sets of psychosocial factors. These results stand in contrast to a prior report showing that how *frequently* couples engage in marital disagreements does not generally depend upon a wide variety of psychosocial factors (McGonagle et al., 1992). That is, over a time period of approximately one month, the occurrence of a marital disagreement is nearly universal regardless of SES, children, etc. Our results in combination with these prior findings suggest that psychosocial factors may be more important in how individuals react to marital arguments than how often they have such arguments.

Among the most noteworthy of results were the striking gender differences in individual moderators of reactivity. Although two individual variables (dependence and self-esteem) were significant for both husbands and wives, the direction of the correlation was reversed by gender (see discussion below). In addition, there were gender differences in all three categories of variables (individual, relationship, and social environment) used in this study.

#### ***Individual Moderators***

For wives, each stable individual characteristic had significant buffering effects on reactivity to marital arguments (with the exception of sex-role orientation). Specifically, high levels of mastery, self-esteem, and extraversion, as well as low levels of dependency and neuroticism, attenuated reactivity. These findings are broadly consistent with prior research documenting the buffering effects of personality (an individual



characteristic) on marital stress. An intriguing finding in this study is that husbands' reactivity was affected by personality but in a different direction than we expected. Husbands with higher self-esteem and lower dependency were more upset by arguments, although these effects disappeared in the net models.

This gender difference may be understood in light of evidence that personality plays a greater role in coping with stressful life events that are highly threatening (Lazarus & Folkman, 1984) or uncontrollable (Pearlin & Schooler, 1978). Such research suggests that the gender differences that we observed may be due to wives perceiving marital arguments as more threatening and uncontrollable than did husbands. This hypothesis is consistent with the fact that wives are significantly more upset by marital arguments than are husbands (Bolger et al., 1989a) and with evidence that marital happiness is more highly associated with wives' overall happiness than with husbands' (Glenn, 1975). This same hypothesis may help explain the findings that other individual moderators, self-esteem, low dependency, and non-traditional sex-roles, were positively related to husbands' reactivity on a marital argument day. That is, perhaps the marital relationship is similarly central to the emotional well-being of these non-traditional husbands as it is for wives. In the future we plan to conduct a comparative analysis of the link between various family relationships and emotional well-being among husbands and wives as a function of various components of their self-image, including personality characteristics and sex-role orientation.

### ***Relationship Moderators***

Three relationship factors (marital trust, marital intimacy, and the percent of total income earned by the wife) were significant moderators for wives, but not for husbands. As levels of marital trust and intimacy increased, reactivity to marital arguments decreased. Research with couples (Holmes & Rempel, 1986) has shown that a climate of positivity in relationships can lead to relatively benevolent attributions for negative behavior on the part of the partner. Such a positive interpersonal climate may moderate reactivity to marital arguments. Wives in this study expressed higher levels of marital trust than husbands. If a threshold exists for trust to moderate reactivity, it may be that the levels of trust by husbands in this study were too low to trigger such a buffering effect.

One relationship factor did exacerbate emotional reactivity for wives, but not husbands. The percentage of wives' income relative to total income exacerbated emotional reactivity to marital arguments for wives.

This may be due to increased workplace demands that accompany wives' increased participation in the labor market. Previous research has shown that wives who work for pay outside the home and have children experience more psychological distress than do their husbands (Thoits, 1986).

In addition to the above gender differences, the average number of marital arguments moderated the link between marital arguments and emotional reactivity for husbands, but not for wives. This result extends prior research by showing that not only are daily perceptions of marital quality undermined by recent negative interactions among couples who generally have frequent negative interactions (Jacobson et al., 1982), but that *emotional* reactivity is elevated as well. Why this would occur for husbands and not wives is not completely clear given that prior research has shown that wives are more reactive to marital arguments than their husbands (Almeida & Kessler, 1998). Some clues may be gained by evidence that husbands are more physiologically reactive to stress and find negative affect more aversive (Gottman & Levenson, 1988). Perhaps husbands are less likely to admit or acknowledge that they are upset because it is aversive to them and will only report negative feelings when they experience persistent arguments. Thus, it may be that it is more difficult for husbands' arousal rates to return to baseline than wives' in the context of chronic marital distress. This possibility could be tested in future research by conducting a comparative analysis of habituation processes among husbands and wives.

### ***Social Environmental Moderators***

Several gender differences appeared for the social environmental moderators. The social environment was relatively more influential in moderating reactivity to marital arguments for husbands than for wives. Support from relatives, acute life events, number of children under 12 years old, number of children outside the home, and total income moderated reactivity for husbands but not wives. Having children who were close in age exacerbated wives' reactivity.

An explanation of the finding that support from relatives exacerbated emotional reactivity for husbands but not for wives may lie in gender differences in the seeking of social support. That is, prior research shows that distress levels initiate support seeking (Kessler, Kendler, Heath, Neal, & Eaves, 1992) and it is plausible that the threshold of distress at which support seeking is initiated is higher for husbands than it is for wives. Further examination of this issue would make an important contribution to the literature on gender differences in social support.

Our analyses revealed a weak, but significant, exacerbating effect of acute life events on husbands' reactivity, but not on wives' reactivity. This gender difference is somewhat puzzling and has no obvious explanation. However, in the context of the other findings for husbands, a very tentative explanation can be offered. Most of the significant moderators for husbands vs. wives can be seen as sources of general stress (e.g., children in the home, total income). It may be that acute life events are simply a part of the general stress that exacerbates reactivity for husbands, but not wives.

We found significant associations between the presence of children in the home and reactivity to marital arguments for husbands, but not for wives. However, these effects were weak and disappeared in the net models. It is noteworthy that these findings are relevant to prior research, which has generally found that the transition to parenthood is associated with decrements in marital quality (Belsky, Spanier, & Rovine, 1983), by demonstrating that this decline may occur through the exacerbation of reactivity to marital conflicts. For husbands only, it is the number of children under 12 years of age in the home that increases reactivity to arguments, while the number of children outside the home decreases reactivity to arguments. For wives, it is the presence of children that are close in age that exacerbates reactivity to marital arguments.

Our results showed that husbands, but not wives, become more distressed by a marital argument as household earnings increased. One plausible explanation is that high income is presumably positively correlated with job demands, suggesting that increased emotional reactivity to marital arguments occurs, in part, through perceptions of the argument as an additional demand on time and energy. It is important to note that the percentage of wives' earnings to household income failed to affect husbands' reactivity. In subsequent analyses not presented here, we examined the possibility that the impact of wives' income on husbands' reactivity to marital arguments varies as a function of husbands' sex-role orientation. We found no evidence that traditional husbands were more reactive than non-traditional husbands as a function of their wives' earning power. A challenge for future research is to sort out the complicated associations between mental health and wives' employment and earnings.

### ***Limitations and Implications***

Limitations of the present study should be noted. First, information was obtained in only 34% of the couples approached to participate in the study. Although attempts were made to correct this problem through

weighting procedures, external validity is somewhat compromised by our response rate. It is, nevertheless, comparable to rates obtained in other studies of married couples (e.g., Hiller & Philliber, 1985).

Another limitation is that our measurement of marital arguments and distressed mood was somewhat crude and incomplete. First, it is important to point out that information on arguments and distressed mood come from the same reporter. Thus findings reported here could be partly due to this shared method variance. In addition, we were only able to capture a limited portion of the variability that no doubt exists in perceptions of argument severity by excluding from our analysis those person-days on which a serious argument with an individual other than the spouse occurred. Regarding incompleteness, prior research shows that particular components of marital disagreements, including frequency, style and outcome, are differentially distressing (McGonagle et al., 1992). Furthermore, these findings raise the possibility that the results reported here differ as a function of these various components. Thus, a challenge for future research on daily marital stress is the development of more sophisticated measures of marital distress, including marital arguments.

Despite these limitations, the results of the present study take an important step in elucidating the link between marital arguments and psychological distress by drawing attention to how various psychosocial features in the lives of married couples influence vulnerability to marital arguments. The findings also lend considerable support to the utility of the Close Relationships Framework for understanding emotion in marriage. According to this framework, dyadic relationships fundamentally consist of chains of behavioral, cognitive and affective events that are causally connected between two individuals over time. In addition, this framework contends that various stable characteristics of relationship partners, their relationships, and the environment serve as causal conditions for these chains of events. In keeping with the theme of this volume on emotions in families, we applied this framework to the examination of the daily linkages between marital arguments (i.e., behavioral events) and psychological distress (affective events). Our diary design and analytic strategy permitted us to provide direct evidence that individuals report higher levels of psychological distress on days they have a marital argument compared to days they do not have an argument. Furthermore, we were able to test how stable characteristics of individuals, relationships, and the social environment moderate these daily linkages. Indeed, there was evidence of gross moderating effects of each of the three sets of psychosocial factors that were examined.

We believe that the findings presented here set the stage for further application of the Close Relationships Framework. First, our results were based on concurrent within-day associations. Subsequent research should investigate the temporal sequencing between marital arguments and psychological distress by testing whether arguments on Day 1 are related to distress on Day 2, or whether arguments predict *change* in distress from Day 1 to Day 2 (cf. Larson & Almeida, 1999). Second, more work needs to be conducted on the mechanisms underlying the stable moderators. In the present analysis, the number of significant moderators was substantially reduced in the net model. This suggests that many of the significant moderators work indirectly through others. The Close Relationships Framework posits various pathways of potential causality. For example, neuroticism (a gross effect only) may moderate argument-emotional reactivity through its impact on marital trust (a net effect). Third, dynamic moderators of the daily linkages between marital arguments could also be explored. Our findings certainly provide evidence that some people are more likely to react to marital arguments than other people based on stable characteristics about themselves and their relationships. However, we do not test how fluctuating circumstances of day-to-day life buffer or exacerbate the emotional effects of marital arguments. For example, emotional reactivity to marital arguments may be heightened on days when other stressors occur. Also, future work might address how the occurrence of positive affect on specific days buffers reactivity to arguments. Finally, the Close Relationships Framework contends that causal processes are largely reciprocal in nature. However, there is almost no research on how the daily emotional lives of couples feeds back to influence more stable properties of individuals or relationships. The use of daily diary designs, in conjunction with longitudinal methods, could be fruitful in suggesting answers to these questions of reciprocity. Using diary designs embedded in a Close Relationships Framework might provide some clues for this potentially exciting avenue of research.

#### NOTE

It has been suggested that the frequency of marital arguments in this sample is relatively low. We do not believe that this poses a problem for the study. First, twenty percent of the couples reported arguments between two per month and more than one per week. Consequently, the sample represents a fairly broad spectrum of argument frequency. Second, there is little evidence to guide researchers in determining which couples are “high” in marital arguments versus “low” in marital arguments.

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