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Marital Cognitions and Depression in the Context of Marital Discord[1]

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The cognitions of 63 couples were examined to explicate the link between marital conflict and depression. Following a laboratory-based marital problem solving discussion, spouses listed cognitions about these discussions and thoughts about the future of their relationship. Cognitions also were assessed using the Automatic Thoughts Questionnaire and Marital Attitude Survey. Self-reported assessments of mood were obtained before and after the problem solving discussion. Depressed wives exhibited significantly more self-blame and hopeless thoughts than nondepressed wives. Self-blame, partner-blame, and hopelessness in reference to the problem solving discussions were associated with spouses' mood states after a problem solving discussion, albeit in different ways. The results support the importance of hopelessness and blame in understanding the link between marital discord and depression.

KEY WORDS: depression; marital cognition; marital discord; hopelessness; blame.

The connection between marital discord and clinical depression is well established. Epidemiological and treatment outcome studies suggest that marital conflict likely has a negative impact on the onset, course, and outcome of depression (O'Leary & Beach, 1990; Rounsaville, Weissman, Prusoff, & Herceg-Baron, 1979a, 1979b; Weissman, 1987; Whisman & Bruce, 1999). Because not all spouses are vulnerable to depression some individual factor is needed to understand the differential

[1]Portions of the results were presented at the November 1995 Annual Meeting of the Association for Advancement of Behavior Therapy, New York. Previous studies from this database include Heyman, Sayers, and Bellack (1994) and Sayers and Bellack (2000). This study is based on results not previously published.

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risk associated with marital dysfunction. Recent empirical research and theory suggest that there are at least two types of cognitions that might increase an individual's vulnerability to depression when faced with marital conflict: blame (of both the self and the partner) and hopelessness.

In a review of the literature on blame, Tennen and Affleck (1990) concluded that the tendency for individuals to blame others leads to worsened functioning because it interferes with adaptive coping strategies and social support. Indeed, one of the most common characteristics of marital discord is blame directed at the *partner* for problems in the relationship, which often precedes declines in marital functioning (Bradbury & Fincham, 1990). A cognitive aspect of blame might include beliefs about the partner as being blameworthy, which then may be associated with hostile and depressed mood when negative events occur. An interpersonal aspect of blame might include less positive and more dysfunctional behavior towards one's partner. Self-blame for negative events has been shown to be predictive of depression, both concurrently and longitudinally, in the face of negative events that are perceived as important (Mittelstaedt & Wollert, 1991; Wollert & Rowley, 1987). Compared to attributions, self-blame seems to have higher concurrent and longitudinal associations with mood (Wollert & Rowley, 1987). *Characterological* self-blame, or focusing on one's personality or character as opposed to one's behavior, seems to be most consistent in differentiating depressed and nondepressed female college students (Janoff-Bulman, 1979). Among maritally discordant, depressed spouses, self-blame may be attenuated because of the fundamental attribution error (see Tennen & Affleck, 1990), and the tendency to blame the spouse. In any event, spouses who engage in more self-blame—particularly characterological self-blame—may have an increased risk of depression. These spouses also might exhibit greater depressed mood, more withdrawal from interaction, and less effective problem solving or interpersonal warmth.

Hopelessness can be described as expectations that negative events, such as marital conflicts, will likely occur or recur, with an additional expectation that the situation cannot be improved. Importantly, hopelessness has been identified as a potential pathway to depression in a recent reformulation of the helplessness theory of depression (Abramson, Metalsky, & Alloy, 1989). In support of this theory, Metalsky, Joiner, Hardin, and Abramson (1993) found that hopelessness expectations predict college students' vulnerability to depressive mood following a poor performance on a midterm exam. In the marital context, one might expect that greater hopelessness is associated with both syndromal depression (i.e., a diagnosis of major depressive disorder) as well as with the severity of the depressed mood generated by marital conflict.

Obviously, blame cognitions and hopelessness are not mutually exclusive. Indeed, hopelessness theory suggests that the tendency toward inferring negative characteristics about the self (i.e., generating self-blame) is a contributory cause of hopelessness and hopelessness depressions (Abramson et al., 1989). It may be the case, however, that only one of these types of cognitions is involved in the development of depression. Unfortunately, often no distinction is made between these types of cognitions as contributors to depression in investigations using

measures of dysfunctional cognitions (cf., Miranda, Gross, Persons, & Hahn, 1998).

THE CURRENT STUDY

The purpose of this study is to examine potential cognitive vulnerability factors that might help explain the link between marital conflict and depression. Blame and hopelessness cognitions were assessed in a sample of three types of couples: nondiscordant couples, maritally discordant couples who were not depressed, and discordant couples in which the wives were clinically depressed. Cognitions were assessed first by self-report questionnaires and then several weeks later immediately following a laboratory-based marital problem solving discussion. The laboratory-based discussion served as a priming procedure that allowed us to capture thoughts of relevance to marital discord (see Ingram, Miranda, & Segal, 1998, regarding priming procedures). We considered Ingram et al.'s criteria (Ingram et al., 1998) for determining whether types of cognition are vulnerability factors. We hoped to show that blame and hopelessness were present in depressed spouses ("sensitivity" criterion) and more frequent in depressed spouses in this study ("specificity" criterion). A demonstration that blame and hopelessness were always present in vulnerability individuals ("stability" criterion) was beyond the scope of this study.

We hypothesized that wives who were maritally discordant and clinically depressed exhibited unique patterns of cognitions (i.e., sensitivity and specificity criteria). We predicted that wives' levels of self-blame, partner-blame, and hopelessness, drawn from both questionnaire and thought-listing methods, would be greater in the wives with diagnoses of major depression than in maritally discordant and nondiscordant wives who were not depressed. Furthermore, we expected marital discord to have led to hopelessness in both husbands and wives (Epstein, 1985). Thus, we predicted that husbands in discordant marriages, none of whom were clinically depressed, would have higher levels of hopelessness than husbands in nondiscordant marriages. We did not expect differences in husbands' hopelessness based on the partner's status as depressed. We also did not expect differences in self-blame for the husbands. We expected maritally discordant spouses to have higher levels of partner-blame than nondiscordant spouses, consistent with previous research.

We also hypothesized that marital conflict behavior, hopelessness cognitions, and blame cognitions were associated with relatively higher levels of depressive mood measured after the laboratory problem solving discussions. Because the brief measure of mood that we employed also included measures of anxious and hostile mood, we had an opportunity to examine changes in those mood states. The associations of self-blame and hopelessness cognitions with anxiety were not expected to be significant (Metalsky & Joiner, 1992), and the analyses concerning cognitions and hostile mood were generally considered exploratory. However, consistent with a large body of existing marital research (Bradbury & Fincham, 1990), we expected partner-blame to be associated with increases in the spouses' (own) hostile mood.

METHOD

Participants

Cohabitating legally married and common-law married couples were recruited from Philadelphia and surrounding suburbs through radio and newspaper advertisements for a study of marital conflict and depression (Sayers & Bellack, 2000). A total of 63 married couples were recruited and assigned to three groups based on their clinical characteristics: maritally nondiscordant, nondepressed couples (ND; $n = 26$), maritally discordant, nondepressed couples (discordant-only, DO; $n = 21$), and maritally discordant couples in which the wife has had a primary diagnosis of major depressive disorder based on a structured clinical interview (depressed–discordant, DD; $n = 16$). Spouses were considered maritally discordant if their scores on the Dyadic Adjustment Scale (DAS, below) were less than 98, or designated themselves as "maritally unhappy" on item 31 of the DAS and the couple had average DAS scores below 98. Couples for whom the husbands were likely to meet criteria for a psychiatric disorder were screened out using Symptom Checklist-90—Revised scores (SCL-90-R; Derogatis, 1983) to help control for confounds stemming from husbands' psychopathology.

Two MANOVAs were conducted to examine demographic differences between the couples by group, which were significant for both wives and husbands, $F(8, 112) = 2.65$, $p < .01$, and $F(8, 114) = 2.73$, $p < .01$, respectively. As shown in Table I, the discordant couples were married longer, had more children, and had received less formal education (wives only) than the other two groups. These findings indicated

Table I. Demographic and Clinical Characteristics by Group

	Nondiscordant (ND, $n = 26$)		Discordant-only (DO, $n = 21$)		Discordant-depressed (DD, $n = 16$)	
	M	*SD*	*M*	*SD*	*M*	*SD*
Length of marriage	8.5_{a}	7.4	9.0_{a}	6.5	14.5	8.7
Number of children	1.1_{b}	1.3	$1.9_{b,c}$	1.2	2.6_{c}	0.7
Wives						
Age	36.4_{d}	8.3	35.8_{d}	6.0	39.3_{d}	8.1
Education	16.5	2.0	15.2_{e}	2.2	14.8_{e}	1.8
DAS	119.9	13.4	73.7_{f}	16.1	68.1_{f}	12.1
BDI	4.1	3.7	11.4	4.3	26.6	8.6
Initial depressive mood	11.7	4.7	17.4	7.0	23.6	7.7
Initial hostile mood	7.2	2.9	9.1_{g}	4.8	12.2_{g}	4.8
Initial anxious mood	5.5	3.4	10.3_{h}	4.5	12.4_{h}	3.9
Husbands						
Age	37.7	7.8	38.7	6.0	41.2	8.1
Education	16.6	2.3	15.5_{i}	2.2	15.6_{i}	1.8
DAS	121.6	6.9	80.5_{j}	13.9	75.6_{j}	19.5
BDI	2.6	3.0	8.7_{k}	4.7	6.9_{k}	6.4
Initial depressive mood	11.7_{l}	6.7	15.5_{l}	4.5	13.3_{l}	7.0
Initial hostile mood	6.7_{m}	3.5	8.5_{m}	3.5	8.1_{m}	3.9
Initial anxious mood	5.7_{n}	3.9	8.4_{n}	2.8	7.2_{n}	3.9

Note. DAS: Dyadic Adjustment Scale; BDI: Beck Depression Inventory. Means in the same row that do not share subscripts differ at $p < .05$.

the potential need for controlling for these demographic differences in the tests of the primary hypotheses.

Two MANOVAs were conducted to examine differences on clinical characteristics between husbands and wives of the three marital groups. The dependent measures were the DAS, the Beck Depression Inventory (BDI), and the Multiple Affective Adjective Check List (MAACL) that were administered immediately before the laboratory-based problem discussion. The MANOVAs for wives and husbands were significant, $F(10, 104) = 20.44$, $p < .0001$, and $F(10,105) = 10.29$, $p < .0001$, respectively. The significant differences between groups supported the belief that we selected couples that fit our criteria (see Table I). The two discordant groups of couples were only distinguished from each other based on the wives' level of depression and their depressed mood levels measured just prior to the problem discussion. Spouses in both discordant groups were highly different from nondiscordant spouses on marital satisfaction.

Measures

Structured Clinical Interview for the Diagnostic and Statistical Manual of Mental Disorders (SCID; Spitzer, Williams, Gibbon, & First, 1989)

This structured interview was used to determine the presence or absence of psychiatric disorders according to the *DSM-III-R* (American Psychiatric Association [APA], 1987), the diagnostic manual in use at the time the data collection was initiated (1992). The SCID interview used with all the wives in this study contained modules assessing mood disorders, psychoactive substance use disorders, anxiety disorders, somatoform disorders, and eating disorders and a module screening out individuals with psychotic symptoms. The SCID was not used with the husbands in the study. The first author or a graduate-level student research assistant (RA) conducted diagnostic interviews for this study.[7]

Dyadic Adjustment Scale (DAS; Spanier, 1976)

The DAS is a 32-item self-report inventory designed to measure the severity of relationship discord in intimate dyads. It is the most widely used scale for this purpose, with high internal consistency, test-retest reliability, and good criterion-related, construct, convergent and discriminant validity (Heyman, Sayers, & Bellack, 1994; Spanier, 1976). Scores range from 0 to 151, with higher values indicating more favorable adjustment, and spouses with scores below 98 are typically classified as discordant (Jacobson et al., 1984). An additional question designed for the current study asked spouses who indicated they were in a discordant relationship to rate the length of the time in months that the relationship had been in an unhappy state.

[7]The first author had formal training in the SCID by the developers of the instrument, and the research assistant had extensive training and experience in the use of the SCID. After a review by the first author of the taped interviews conducted by the research assistant ($n = 12$), the diagnosis in one case was changed from none to current major depressive disorder. The change in this diagnosis was due to a change in the rating of the single symptom of sleep disturbance, which was judged to be more frequent, severe, and of longer duration than had been rated by the research assistant.

Beck Depression Inventory (BDI; Beck, Steer, & Garbin, 1988)

This 21-item inventory is a measure widely used to assess level of clinical depression. Scores range from 0 to 63, with higher scores indicating greater severity. It has good concurrent validity as a measure of the severity of depressive symptoms (Beck et al., 1988). Scores of at least 16 are recommended to designate a subject as likely to be experiencing a major depressive episode.

Marital Attitude Survey (MAS; Pretzer, Epstein, & Fleming, 1992)

This 64-item measure of marital attributions has eight subscales with adequate internal consistency and convergent validity (Pretzer et al., 1992). For the current study, we used the MAS to supplement the use of the thought-listing coding system described below. Three correlated composite variables were formed following the results of a principal components analysis of these subscales (Sayers, Fresco, Kohn, & Sarwer, 1995). The subscales Attributions to Own Behavior and to Own Personality formed the MAS Self-blame composite score using the mean of the respondents' subscale scores. The subscales Attributions to Spouse's Behavior, Spouse's Personality, Malicious Intent, and Lack of Love formed the MAS Partner-blame composite score, in the same manner. The subscales Perceived Ability to Change and Expectancy of Improvement formed the MAS Expectations of Change composite score. Concurrent evidence from correlational analyses with measures of depression and marital satisfaction supported the validity of these composite scores (Sayers et al., 1995).

Automatic Thoughts Questionnaire (ATQ; Hollon & Kendall, 1980)

This inventory is a widely used measure of the dysfunctional thoughts associated with depression. This is a highly reliable and valid measure that has greater specificity to cognitions associated with depressive symptoms than other self-report measures of cognition (Hollon, Kendall, & Lumry, 1986; Kwon & Oei, 1992; Stiles & Götestam, 1989). Seven-item subscales, labeled ATQ Self-blame and ATQ Hopelessness, were created for the current study to supplement the use of the thought-listing coding system described below. These subscales were formed following the guidance of several previous exploratory and confirmatory factor analyses (Bryant & Baxter, 1997; Deardorff, Hopkins, & Finch, 1984; Hollon & Kendall, 1980; Sayers et al., 1995). The Cronbach's alphas for the subscales were high, ranging from .95 to .85. In addition, the subscales were highly intercorrelated: $r = .85$, $p < .001$ (for wives), and $r = .75$, $p < .001$ (for husbands).

Supportive evidence for the validity of the ATQ subscales was found in the current study. As shown in Table II, the ATQ Self-blame subscale was significantly correlated with the BDI for wives and husbands. The ATQ Self-blame subscale was also positively associated with the MAS Self-blame composite for both wives and husbands. The ATQ Hopelessness subscale was significantly correlated with the BDI for both wives and husbands.

Table II. Intercorrelations of the Cognitive Assessment Methods, Depression Level, and Marital Satisfaction

	TL Partner-blame	TL Hopelessness	ATQ Self-blame	ATQ Hopelessness	MAS Self-blame	MAS Partner-blame	MAS Expectations of change	BDI	DAS
TL Self-blame[a]	−.22 (−.17)	.07 (.00)	.37** (−.01)	.29* (−.02)	.14 (−.01)	.14 (−.10)	−.11 (−.13)	.34** (.10)	−.19 (.01)
TL Partner-blame[b]	—	.42*** (.65***)	.22 (.17)	.28* (.16)	.23 (−.20)	.35** (.45***)	.10 (−.20)	.21 (.15)	−.59*** (−.47***)
TL Hopelessness[c]		—	.42*** (.21)	.50*** (.33*)	.21 (−.02)	.37** (.47***)	−.32* (−.09)	.49*** (.26*)	−.59*** (−.45***)
ATQ Self-blame[c]			—	.85*** (.75***)	.40** (.27*)	.35** (.41**)	−.15 (.15)	.77*** (.56***)	−.54*** (−.34***)
ATQ Hopelessness[c]				—	.41*** (.31*)	.49*** (.32*)	−.16 (.23)	.82*** (.53***)	−.64*** (−.29*)
MAS Self-blame[d]					—	.21 (.17)	.15 (.35**)	.40*** (.25*)	−.39** (−.20)
MAS Partner-blame[d]						—	.07 (−.15)	.51*** (.32*)	−.74*** (−.76***)
MAS Expectations of change[d]							—	−.13 (.17)	.02 (.32*)
BDI[a,b]								—	−.66*** (−.33**)

Note. TL: Thoughtlisting; ATQ: Automatic Thoughts Questionnaire; MAS: Marital Attitude Survey; BDI: Beck Depression Inventory; DAS: Dyadic Adjustment Scale. Husbands' values are in parentheses. The superscript with the lowest value for each pair of variables indicates the relevant n for each correlation coefficient.

[a] $n = 63$.

[b] $n = 63$.

[c] $n = 62$ (females), $n = 59$ (males).

[d] $n = 63$ (females), $n = 62$ (males).

$^{*}p < .05$. $^{**}p < .01$. $^{***}p < .001$.

Areas of Change Questionnaire (AOC; Weiss & Birchler, 1975)

The Areas of Change Questionnaire consists of 34 behaviorally specific items concerning changes the respondent wishes the partner to make. It was used in this study to help identify specific relationship areas for discussion in the videotaped problem solving assessments.

Multiple Affective Adjective Check List (MAACL; Zuckerman & Lubin, 1965)

The MAACL is a 132-item self-report measure of mood with subscales for depressive, hostile, and anxious mood. Eighty-nine of the items are scored for these scales. It is well-validated (Lubin, 1977) and has been used in a number of investigations requiring the sensitive measure of changes in mood. Internal reliability estimates for each of the three scales are high (αs > 0.80) and the evidence supporting validity is good (Lubin et al., 1986).

Thought-Listing Coding System (TL; Sayers et al., 1995)

This coding system was developed for the current study to assess the degree of self-blame, partner-blame, and hopelessness cognitions associated with spousal conflict.[8] Coding definitions and instructions were detailed and included specific anchors on a scale from 1 (*none*) to 7 (*a great deal*) for the rating of each thought on each dimension described below. First, the thought-listing (TL) Self-blame dimension referred to thoughts that included any self-criticism or expression of self-blame for problems in the relationship (e.g., "I felt like a complaining BITCH"). The TL Partner-blame dimension was defined in a way similar to TL Self-blame, but the partner, rather than the respondent, was the referent of the thought (e.g., "Instead of trying to deal with her problem she only wants to find fault with me"). Thoughts in which it was not clear who was being blamed were to receive a rating of 1 on both TL Self-blame and TL Partner-blame. Last, a TL Hopelessness dimension was defined as referring to expectations about the future, encompassing pessimism, beliefs about the inability to change, and the inability to affect the outcome of events (e.g., "It's too late to change and too financially impossible to leave"). A methodological study of these thought-listing methods suggested that a specific prompt (described below) designed to assess expectations about the future produced the greatest variability on the TL Hopelessness dimension (Sayers et al., 1995). Thus, only the TL Hopelessness ratings on thoughts generated on this prompt were used in the current report. All three dimensions were conceived as independent of one another; coders were free to use any combinations of coding on each dimension, depending on the features of the thought.

The mean of two graduate student primary raters' scores across all the thoughts for each individual was used for this report. High reliability was observed for each of the three dimensions. Cronbach's alpha for data provided by coders for this study were the following: TL Self-blame, $\alpha = .82$; TL Partner-blame, $\alpha = .91$ (Sayers et al.,

[8] A detailed manual, available from the first author, was developed and refined on cognitions generated from a sample of couples that was separate from the sample in the present study.

1995); and TL Hopelessness, $\alpha = .94$. Intraclass correlations for the mean of two raters of each thought (ICC [2, 2]; Shrout & Fleiss, 1979) for TL Self-blame and TL Partner-blame across two different coder pairs ranged from ICC(2, 2) = .79 to ICC(2, 2) = .84 (Sayers et al., 1995). The ICC for the TL Hopelessness dimension also was good, ICC(2, 2) = .91.

We found favorable support for the convergent and discriminant validity of the thought-listing ratings among the 63 couples (see Table II). Generally, for the wives, TL Self-blame, TL Partner-blame, and TL Hopelessness were correlated with corresponding the scales from the ATQ and MAS, and correlated with the BDI and DAS as expected. Unexpectedly, TL Self-blame was not associated with the MAS Self-blame variable. The pattern of findings was similar for the husbands, although were likely less consistent and attenuated because of the limited degree of depressive symptoms among the husbands. TL Hopelessness also was significantly correlated with the wives' estimates of the length of relationship unhappiness, $r = .36$, $p < .05$, although husbands' TL Hopelessness was uncorrelated with the corresponding estimate by the husbands.

Marital Interaction Coding System—Version IV (MICS-IV; Weiss, 1992)

The MICS is a 36-code microanalytic coding system developed and revised by investigators at the Oregon Marital Studies Program (OMSP), first developed in 1972 (Hops, Wills, Weiss, & Patterson, 1972). The validity of the MICS coding system has been supported in numerous studies (45 cited by Weiss & Summers, 1983). According to OMSP coding conventions, acceptable reliability was achieved by requiring each coder to maintain code-by-code agreement of at least 70% with a master coder on a random sample of at least 25% of the tapes. The coders were blind to the diagnostic status and marital satisfaction levels of the spouses.

Codes were grouped into categories using the factor analysis of Heyman, Eddy, Weiss, and Vivian (1995) as a guide (see Table III). We created a fifth category

Table III. MICS Categories From Heyman et al. (1995), With Rational Extensions to Factors for This Study in Parentheses

Hostility	Responsibility discussion	Constructive problem discussion	Humor/warmth	(Dysphoria/ withdrawal)
Turnoff	Accept responsibility	Disagree	Smile/laugh	(Disengage)
Criticize	Deny responsibility	Positive solution	Humor	(Dysphoric affect)
Put down	Approve	Problem description	(Positive physical)	(Withdrawal)
Mindread negative	(Excuse)	Question	(Paraphrase)	
Disapprove	(Excuse other)	Agree	(Mindread positive)	
(Command)		(Assent)		
(Interrupt)		(Compromise)		
(Noncomply)		(Negative solution)		
(Threat)				
(Voice tone)				

on a rational basis, Dysphoria/Withdrawal, which corresponded to the depressive category of behavior of interest in several studies of marital interaction (e.g., Biglan et al., 1985). The indices used in the current study consisted of proportions of each type of behavior calculated for each spouse, and we applied the arcsin transformation to each score, as suggested by Kirk (1982).

In the current sample, wives' proportions of Dysphoria/Withdrawal behavior were correlated positively and significantly with the wives' depression total scores on the BDI, $r = .24$, $p < .05$. Also, wives' proportions of Dysphoria/Withdrawal behavior were significantly correlated with their own increases in depressive mood over the course of the problem solving discussions, $r = .25$, $p < .05$. Wives' proportions on this behavior were not associated with wives' increases in either anxious or hostile mood. We did not utilize the Responsibility Discussion in the MICS IV to eliminate the multicollinearity that would result because the indices were based on proportions.

Procedures

Spouses who responded to the advertisements were screened by phone for appropriateness. Interested couples that appeared to fit the profile of one of the types of couples were sent a packet of questionnaires, asked to complete them without consulting one another, and return them in the mail. The final sample of 63 couples was drawn from 207 couples that completed the forms and also met the inclusion/exclusion criteria. Experimenter error resulted in missing data for the problem discussion task for one couple in the discordant only group, as well as for the hopelessness thought-listing ratings for three of the wives in the nondiscordant group, and hopelessness ratings of one husband in each of the other two groups.

At the laboratory visit, the wives were clinically evaluated using a SCID interview (Spitzer et al., 1989), and both spouses completed the BDI. Two areas of conflict were identified using the spouses' responses on the AOC for two, 10-min videotaped problem solving discussions. Spouses completed mood checklists (MAACLs) immediately prior to beginning the first problem solving discussion and completed a second set of checklists after the two discussions had been completed. Spouses were then asked to complete a free recall thought-listing in which spouses wrote their thoughts about the problem discussions on forms that were blank except for boxes that were approximately 7-in. wide and 2-in. deep. A second thought-listing task utilized instructions for each spouse to generate thoughts about how the relationship will function in the future (the "future prompt"). Spouses were in separate rooms while completing the MAACL and thought-listing forms. We later transcribed the spouses' written thoughts from the thought-listing forms for coding using the TL Self- and TL Partner-blame and TL Hopelessness dimensions. Couples were paid $35.00 for their participation in the study.[9]

[9] A more detailed description of the recruitment and assessment procedures can be obtained from the first author.

RESULTS

Concurrent Associations of Thought-Listing Cognitions With Problem Discussion Behavior

To evaluate the validity of our thought-listing method more fully, we examined the zero-order correlations of each of these cognitive variables with each participant's own discussion behavior. A partial correlation analysis was conducted for the relevant demographic covariates (i.e., where length of marriage, number of children, and highest level of education attained was correlated with at least one of the pair of variables in each correlation in the current analyses). We expected that higher levels of spouses' TL Self-blame, TL Partner-blame, and TL Hopelessness would be associated with lower levels of functional discussion behavior (i.e., lower proportions of MICS Constructive Problem Solving and MICS Humor/Warmth) and higher levels of dysfunctional discussion behavior (i.e., higher proportions of MICS Hostility and MICS Dysphoria/Withdrawal). The results were generally supportive of these associations. Higher levels of TL Self-blame were associated with more MICS Dysphoria/Withdrawal behavior in husbands, ($r = .35$, $p < .01$), but not in wives. Higher levels of TL Partner-blame were associated with more Hostile behavior for husbands ($r = .27$, $p < .05$) and wives ($r = .30$, $p < .05$), and less Humor/Warmth on the part of the wives ($r = -.44$, $p < .001$). Higher levels of wives' TL Hopelessness were associated with more Hostile behavior for the wives ($r = .35$, $p < .05$). In addition, for wives, higher levels of TL Hopelessness were associated with less Humor/Warmth behavior ($r = -.33$, $p < .01$). None of the other thought-listing–behavior associations were statistically significant. In general, these findings support the relevance of hopelessness and blame to hostility and lack of warmth in marital problem discussions, and support our thought-listing methodology for assessing these cognitions. Contrary to our expectations, the results revealed an inconsistent relation between TL Self-blame and MICS Dysphoria/Withdrawal problem discussion behavior. Furthermore, spouses' MICS Constructive Problem Discussion behavior did not appear to be relevant to each spouse's own blame and hopelessness cognitions in this study.

Group Differences in Cognitions

Multivariate Analyses of Variance (MANOVAs) were conducted to examine group differences in self-blame, partner-blame, and hopelessness cognitions, to test the hypotheses about unique patterns of cognitions attributable to wives' depression status. One set of MANOVAs was conducted for the ATQ and MAS, given that they were completed at the same pre–laboratory-visit time point, and another set of MANOVAs was conducted for the thought-listing variables assessed during the laboratory visit. Wives' and husbands' data were examined in separate MANOVAs. Two preplanned contrasts were conducted that examined differences between maritally nondiscordant spouses and discordant spouses (ND couples vs. DO + DD couples), and couples with a wife with a diagnosis of depression versus couples without (DD couples vs. ND + DO couples). Because of the demographic differences noted for

Table IV. Means and Differences Between the Groups on the Cognitive Variables

	M^a			Preplanned contrasts	
	Nondiscordant (ND)	Discordant-only (DO)	Discordant–depressed (DD)	ND vs. DO + DD	ND + DO vs. DD
Wives					
ATQ Self-blame	1.14	1.65	2.92	*	*
ATQ Hopelessness	1.18	1.90	2.92	*	*
MAS Self-blame	11.60	13.71	14.19	*	*
MAS Partner-blame	11.64	16.89	19.31	*	*
MAS Expectations of change	15.08	15.98	14.38		
TL Self-blame	1.19	1.13	1.47		*
TL Partner-blame	1.23	2.58	1.95	*	
TL Hopelessness	1.25	2.47	3.15	*	*
Husbands					
ATQ Self-blame	1.04	1.44	1.38	*	
ATQ Hopelessness	1.13	1.58	1.25		
MAS Self-blame	11.21	13.38	12.31	*	
MAS Partner-blame	10.50	16.70	19.06	*	*
MAS Expectations of change	15.35	15.21	14.69		
TL Self-blame	1.18	1.22	1.19		
TL Partner-blame	1.17	1.98	1.90	*	
TL Hopelessness	1.28	2.72	2.36	*	

Note. ATQ: Automatic Thoughts Questionnaire; MAS: Marital Attitude Survey; TL: Thought-listing.
[a]Standard deviations for the dependent variables can be obtained from the first author.
*$p < .05$.

wives (length of marriage, level of education, number of children) and husbands (level of education, number of children) based on group membership, these covariates were tested in the models before group membership. A covariate was dropped from the model if it was not significant at $p < .05$, in the context of the full model.

Our expectations for the findings on the ATQ, MAS, and TL variables were substantially fulfilled. The MANOVA for the ATQ and MAS variables was significant for wives, $F(10, 110) = 10.45$, $p < .0001$. The MANOVA for the TL variables also was significant, $F(6, 110) = 10.02$, $p < .0001$. All of the univariate omnibus tests associated with each set of significant preplanned contrasts were also significant (all ps $< .05$). As seen in Table IV, compared with maritally nondiscordant wives, wives who were maritally discordant showed greater blame and hopelessness on all of the relevant variables except TL Self-blame, and with no differences on MAS Expectations of Change. Compared with nondepressed wives, wives with a diagnosis of depression exhibited greater blame and hopelessness on all of the relevant variables except TL Partner-blame, and no differences with nondepressed wives on MAS Expectations for Change. None of the demographic covariates remained significant in the context of the full model for any of the wives' cognitive variables.

Again, the findings of the husbands' responses on the MAS, ATQ and TL variables substantially fulfilled our expectations (see Table IV). The MANOVAs for the ATQ and MAS variables, $F(10, 110) = 8.41$, $p < .0001$, and for the TL variables, $F(6, 110) = 3.67$, $p < .005$, were significant. Compared with maritally nondiscordant husbands, maritally discordant husbands exhibited greater blame and hopelessness

on all the relevant cognitive variables except ATQ Hopelessness and TL Self-blame. There were no differences on MAS Expectations for Change on the basis of marital discord. Only one of the contrasts involving husbands' cognitions revealed a difference on the basis of wives' diagnostic status. Husbands of clinically depressed wives exhibited significantly greater MAS Partner-blame, compared with husbands whose wives were not depressed. For husbands, higher levels of ATQ Hopelessness were associated with greater numbers of children. Higher levels of TL Self-blame were associated with fewer children and greater lengths of marriage. These covariates, however, only had an impact on the statistical significance of ATQ Hopelessness; the findings after the adjustments for the demographic covariates were reported.

In summary, the results for wives indicated generally higher levels of self-blame, partner-blame, and hopelessness associated with marital discord. Similar, but less consistent, results were obtained for husbands; husbands' results revealed no evidence that marital discord was associated with higher levels of self-blame. Most important, wives who had a diagnosis of major depression had generally higher levels of blame of both self and partner, and higher levels of hopelessness than wives without major depression. Husbands of wives with major depression showed very few differences in cognition with the husbands of nondepressed wives, with the exception of higher partner-blame as assessed by the MAS. MAS Expectations for Change was not associated with marital discord or major depression.

Cognitive–Behavioral Model of Mood

The next set of analyses focused on the question of whether an examination of both spouses' problem discussion behaviors and spouses' cognitions could help explain negative mood that occurred in the context of their problem discussions. Moreover, we were interested in whether these variables offered explanatory power for the mood effects over and above spouses' designations as maritally discordant or clinically depressed. We conducted a series of regression analyses to construct a model of mood and mood change that took into account diagnostic and marital discord group memberships, spouses' problem discussion behaviors, and cognitive variables. Two types of dependent variables were considered: (1) mood change resulting from the problem discussion (postdiscussion mood minus prediscussion mood change score, adjusting for prediscussion mood level), and (2) postdiscussion mood. It was important to examine both types of mood indices because previous analyses determined that some spouses started the problem discussions with very high levels of negative mood (see Table I) and showed essentially no change (Sayers & Bellack, 2000). Not examining postdiscussion mood separately might cause us to miss important relations between behavioral variables, cognitive variables, and ambient mood. Consideration of the postdiscussion mood was the most relevant because it occurred immediately after the problem discussion and was the most proximal in time to the thought-listing assessment.

We used the following procedure when constructing separate regression models of depressive, hostile, and anxious mood. For the examination of mood change the prediscussion mood variable was first entered into the regression model. Demographic covariates found to be associated with group membership in previous

analyses were then entered to examine whether they accounted for variance in the mood indices. Next we entered the dummy variables for wives' diagnostic status (*depressed* = 1, *nondepressed* = 0) and the status of the marriage (*discordant* = 1, *nondiscordant* = 0). The next block of variables entered included the MICS variables Constructive Problem Solving, Humor/Warmth, Hostility, and Dysphoria/Withdrawal. Wives' MICS variables were used as predictors for husbands' mood indices, and husbands' MICS variables were used as predictors for wives' mood indices. Next, the thought-listing variables of TL Self-blame, TL Partner-blame, and TL Hopelessness were entered as a block. At each step, variables that did not show incremental increases in R^2 using an alpha level of $p < .05$ as the criterion were dropped from the model. The models that resulted for wives and husbands are presented in Table V.

Wives' Changes in Mood

As described above, we examined length of marriage, number of children and level of wives' education as covariates in the initial stages of building the regression model of wives' changes in mood. None of these covariates met the minimum $p < .05$ criterion level for retention in the model. As shown in Table V, lower initial levels of negative mood were associated with greater increases in negative mood

Table V. Regression-Based Partial Correlations Between Group, MICS Behaviors, Cognitive Variables, and Mood in the Final Regression Models

	Mood change[a]			Post-discussion mood		
	Depression[b]	Hostility	Anxiety	Depression	Hostility	Anxiety
Wives						
Prediscussion mood[c]	−.46***	−.56***	−.66***			
Group (*discordant* = 1, *nondiscordant* = 0)	.26*	.24[d]	.41***	.31*	.17	.58***
Husbands' MICS Warmth/Humor	—	—	—	−.30*	—	−.32*
Wives' TL Partner-blame	—	.40**	—	—	.35**	—
Wives' TL Hopelessness	—	—	—	.35**	.30*	—
Husbands						
Pre-discussion mood[c]	−.29*	−.27	−.42***			
Group (*discordant* = 1, *nondiscordant* = 0)	.17	.37**	.40**	.40**	.37**	.49***
Wives' MICS Constructive Problem Solving	—	−.37**	—	—	—	—
TL Self-blame	—	−.31*	—	—	—	—
TL Hopelessness	.35**	—	—	—	—	—

[a] Higher mood change scores reflect greater depressive, hostile, or anxious mood following the problem solving discussions, adjusting for initial mood level. Thus, a positive partial correlation reflected that increases in depressive mood were associated with relatively higher levels of hopelessness, for husbands.
[b] Within gender, each column presents the remaining significant effects in the model for the dependent measure at the head of that column.
[c] Prediscussion mood was only included in regression models with the dependent measure of mood change.
[d] Effect rendered nonsignificant in the mediational analyses described in the text.
* $p < .05$. ** $p < .01$, *** $p < .001$.

over the course of the laboratory problem discussion. Wives in the maritally discordant group tended to have greater increases in negative mood, after adjusting for initial mood. Wives status as depressed or nondepressed was not predictive of their changes in mood. Contrary to our predictions, for wives, none of the cognitive or behavioral variables significantly predicted changes in depressed mood; relatively greater partner-blame was associated with increases in postdiscussion hostile mood. Using the criteria of Baron and Kenny (1986) wives' partner-blame mediated the association between marital discord and the wives' changes in hostile mood. Marital discord group status accounted for a significant amount of variance in wives' increases in hostility, partial $R^2 = .21$, $p < .001$, after adjusting for initial levels of hostility. Marital discord status also was significantly associated with wives' TL Partner-blame (see Table IV). In addition, TL Partner-blame was associated with wives' changes in hostile mood, after adjusting for initial mood, partial $R^2 = .28$, $p < .0001$. Once TL Partner-blame was entered into the model the variance of change in hostile mood accounted for by marital discord group dropped to $R^2 = .06$, $p > .05$, which supported the mediating role of this cognitive variable.

Wives' Postdiscussion Mood

With postdiscussion mood as the dependent variable, none of the demographic covariates accounted for significant portions of the variance and thus were not retained in the model. As expected, wives' higher levels of hopelessness were associated with higher levels of postdiscussion depressive mood, although blame did not significantly predict depressive mood. Wives' TL Partner-blame and TL Hopelessness cognitions, however, mediated the associations of marital discord group with postdiscussion hostile mood. Marital discord was a significant predictor of wives' postdiscussion hostile mood, $R^2 = .31$, $p < .001$, although the inclusion of wives' TL Partner-blame and TL Hopelessness variables in the model reduced this figure to $R^2 = .03$, $p > .05$. Finally, relatively higher levels of husbands' humor/warmth discussion behavior were associated with lower levels of wives' anxious mood. Wives' depressive diagnostic classifications were not associated with the levels of any of the wives' post discussion mood variables.

Husbands' Changes in Mood

Neither length of marriage nor number of children accounted for the significant variance in husbands' mood change. As shown in Table V, lower initial levels of husbands' negative mood were associated with greater increases in negative mood over the course of the problem discussions. In addition, marital discord group and husbands' greater levels of hopelessness were associated with their increases in depressed mood, after adjusting for initial mood. Again, it was determined that TL Hopelessness mediated the association between marital discord group and husbands' increased depressed mood. The direct association between group and depressed mood change, adjusting for initial mood, was significant, partial $R^2 = .15$, $p < .005$, and marital discord status also was significantly associated with husbands' TL Hopelessness (see Table IV). After TL Hopelessness was entered into the model, the variance accounted for by marital discord group dropped to $R^2 = .03$, $p > .05$,

which supported the mediating role of this cognitive variable. As shown in Table V, husbands in the maritally discordant groups were more likely to have greater postdiscussion hostile mood. In addition, husbands who blamed themselves less and whose wives exhibited relatively less constructive problem solving behavior, also showed greater increases in hostile mood. Twenty-nine percent of the husbands in fact showed absolute decreases in hostile mood, so it is important to note the potential function of husbands' self-blame and wives' constructive problem solving behavior in decreasing this mood state. Only marital discord status was predictive of husbands' changes in anxious mood.

Husbands' Postdiscussion Mood

Again, the demographic covariates did not account for significant variance in mood and were not retained in the model. As shown in Table V, none of the cognitive or behavioral variables were predictive of husbands' postdiscussion mood levels. Only being maritally discordant was associated with husbands' relatively higher levels of postdiscussion depressive, hostile, and anxious mood.

Summary

Overall, the results confirmed that discordant spouses exhibited more depressed, hostile, and anxious mood after a laboratory problem discussion compared with nondiscordant couples. Contrary to our expectations, the results did not suggest that wives' status as depressed accounted for differences in these mood states independent of marital discord. Relatively greater hopelessness of wives, as well as relatively lower levels of warmth/humor behavior by their husbands, were associated with higher postdiscussion depressive mood for wives. Interestingly, cognitions mediated the association between marital discord classification and mood. For wives, partner-blame accounted for the association between marital discord and wives' increases in hostile mood. Wives' partner-blame and hopelessness also accounted for the association between marital discord and wives' postdiscussion hostile mood. For husbands, hopelessness mediated the association between marital discord classification and increases in depressive mood. Last, lower levels of self-blame by husbands, as well as less constructive problem solving behavior by the wives, were associated with increases in husbands' hostile mood.

DISCUSSION

The findings of this study support the role of both marital hopelessness and blame as vulnerability factors in syndromal depression and dysphoric mood in the context of marital conflict. The results of the group comparisons supported that hopelessness is both present and at relatively higher levels among wives' who are depressed and in discordant relationships—when comparing these wives with those who are not depressed. Furthermore, high levels of hopelessness in wives were associated with high levels of depressive as well as hostile mood immediately following the problem

discussion in which each couple participated. But the potential role of hopelessness as a general vulnerability factor for depressed mood for all spouses was underlined by the husbands' results. Husbands' hopelessness assessed by the thought-listing task was associated with their increases in depressed mood over the course of the laboratory discussion. Husbands' hopelessness levels accounted for the association between the couples' status as discordant and husbands' increases in depressed mood, suggesting that the hopelessness about conflict is an important general vulnerability factor in the development of depressive mood.

The results are consistent with recent formulations of hopelessness as a key contributor to depression (Abramson et al., 1989). Several facets of the findings support these conclusions. Importantly, hopelessness had significant associations with the mood of spouses after problem solving discussions. Hopelessness about the relationship was also positively associated with wives' estimated length of unhappiness in the relationship. This suggests that the hopelessness cognitions were based in part on judgments that the marital conflict was a situation that has persisted and would not change in the future. Furthermore, consistent with a vast amount of previous research (Bradbury & Fincham, 1990), the results indicated that the conflict in these discordant relationships was attributed to the failings of the other spouse (i.e., partner-blame). Our own informal examination of the most hopeless thoughts included the element of being trapped in the relationship with a spouse who is to blame for the problems without the ability to leave for a better situation. Abramson et al. (1989) suggest that an important factor contributing to hopelessness is a high degree of importance placed on the stressors; marital conflict is usually deemed to be a highly important stressor.

The results concerning blame cognitions suggest that self-blame is both present and at higher levels in wives who are clinically depressed and in discordant relationships, compared with nondepressed wives, regardless of marital discord status. We were unable to find evidence, however, that wives' levels of self-blame assessed by the thought-listing method were associated with wives' mood levels or changes in mood over the course of the laboratory discussion. This resulted despite that self-blame was positively correlated with wives' self-reported depressive symptoms within a 1-week period. It may be that partner-blame is a more important feature of marital discord (Bradbury & Fincham, 1990), and the nature of interpersonal conflict is that it draws one's attention primarily toward the other person in the conflict. Although the self-blame as measured in the thought-listing task was highest in the depressed wives following the problem solving discussion, the impact of self-blame may not be apparent until a later time, when a spouse may have had an opportunity to reflect or ruminate about the conflict. An investigation that follows the unfolding of cognitions and symptoms over the minutes and hours after an angry interchange between spouses might detect a greater role for self-blame in explaining the link between marital dysfunction and depression.

We did not find that postdiscussion mood and mood change as a result of the laboratory discussion were associated with wives' diagnostic status, independent of marital discord classification. Our primary interpretation of this finding is that the depressed wives began the laboratory problem discussion with significantly more depressed, hostile, and anxious mood than the wives in the other two groups. The

problem discussion had a negative impact on the mood of the discordant-only wives not experienced by the nondiscordant wives to the same extent. This suggests that we found evidence that conflictual discussions have an overall negative impact on the mood of spouses in chronically discordant marriages.

These findings have been couched in a model that emphasizes the impact of marital conflict on depression, but a stress-generation model represents depression and marital problems as an unfolding interactive process (Beach, Fincham, & Katz, 1998; Davila, Bradbury, Cohan, & Tochluk, 1997; Hammen, 1991). A stress-generation model suggests that depressed spouses may be deficient or negativistic in providing or eliciting support, they may perform their marital role less effectively and they may be less effective at marital problem solving. The stress-generation model could explain how self-blame might be elevated in depressed wives relative to nondepressed but maritally discordant wives, but not be associated with depressed mood during and after a laboratory problem solving discussion. Davila et al. (1997) found in a longitudinal study of 154 newlyweds that the associations between self-blame, self-denigration, and depressive mood might be maximized during discussions focused on social support within marriage. Problem solving discussions could be expected to generate more conflict, partner-blaming cognitions, and hostile mood in contrast to the interaction task used in Davila et al. (1997), which focused explicitly on the provision of social support. Studies of depression in the context of marital interaction and marital discord might benefit by examining cognition and mood change over time.

There are several aspects of the design of the study that limit the scope of the findings. We could not say definitively that the laboratory discussion produced the marital cognitions in the thought-listing task because we lacked a prediscussion thought-listing assessment necessary for drawing such a conclusion. We also were unable to conclude that it was important for the spouses to experience the problem discussion or some similar stimulus to assess negative thinking, although the significant findings in this study and previous studies support this interpretation (e.g., Miranda & Persons, 1988). We also could not draw definitive conclusions about the relative usefulness of self-blame, partner-blame, and hopelessness in explaining depression associated with marital discord because we used a different instructional set for assessing hopelessness. Although we decided to use the "future prompt" based on empirical findings that it yielded greater variance, this direct comparison was handicapped. Other limitations include that the questionnaire methods that we used as supplementary measures of blame and hopelessness were adapted for the current study and thus were not ideal for testing the primary hypotheses or examining the validity of the thought-listing coding scheme. Moreover, they were administered at a different time point from the thought-listing measures, preventing a direct comparison of assessment methods (i.e., questionnaire vs. thought-listing methods) that was free from the confound of the time of assessment.

This study was not designed to test the diathesis–stress model, but instead focused on revealing potential cognitive diatheses that explain the marital-conflict/depression link. Greater support for the importance of hopelessness and blame in leading to depression in the context of marital discord awaits longitudinal study in spouses who are nondepressed but vulnerable to depression. Findings from the

thought-listing assessment method provide a unique view of the way that marital conflict is associated with depression in vulnerable spouses.

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