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Relative contributions of relationship distress and depression to communication patterns in couples

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Abstract

Researchers have long been interested in the relationship between marital distress and depression. Empirical findings from investigations into the relative contributions of marital distress and depression to marital communication have been inconsistent, and some communication behaviors, such as the demand/withdraw interaction pattern, have yet to be examined. The ability of depression to predict major types of communication (positive communication, negative communication, problem-solving, and demand/withdraw) was analyzed after controlling for the shared variance between marital distress and depression. Across two studies of couples beginning therapy and one study of couples beginning an enhancement program, results failed to provide support for a unique contribution of depression to couples' communication behaviors.

Keywords

relationship distress; depression; communication

Numerous studies have found a relationship between marital distress and depression. A meta-analysis of over thirty different studies found a consistent, moderate sized correlation (r (approx.) = .4) between marital distress and depression for men and women in cross-sectional

studies that have measured depression categorically as well as continuously (Whisman, 2001). A relationship between marital distress and depression of approximately the same size as reported by Whisman (2001) has also been found in treatment studies of depressed psychiatric inpatients and outpatients (e.g. Coleman & Miller, 1975), marital therapy treatment studies of both newlywed and well-established couples (e.g. Davila, Bradbury, Cohan, & Tochluk, 1997), treatment studies of specifically distressed and depressed couples (e.g. Beach & O'Leary, 1992) and descriptive studies of community samples both in the United States as well as in other countries, such as Sweden (Freden, 1982).

Studies have also shown both marital distress and depression affect marital communication. Although communication has been categorized using different taxonomies by couples researchers and depression researchers, empirical results from the two separate literatures suggest that both marital distress and depression play an important role in the way that couples communicate.

Distressed couples have been found to communicate differently from their non-distressed counterparts along several dimensions (see Weiss & Heyman, 1997 for a review). Relative to non-distressed couples, distressed couples generally display increased levels of negativity and decreased levels of positivity in their every day interactions as well as in problem solving attempts (e.g., Gottman, Markman, & Notarius, 1977; Julien, Markman, & Lindahl, 1989).

In addition to increased levels of negativity, decreased levels of positivity, and impaired problem-solving, distressed spouses tend to interact with one another using the demand/withdraw pattern. The demand/withdraw pattern occurs when one spouse makes a complaint or request for a change and the other spouse avoids or withdraws from the discussion, presumably to avoid an argument or having to make the requested change (Christensen, 1988). In conflicted couples wives most often assume the demanding role and husbands assume the withdrawing role, particularly when discussing changes that the wife would like in the relationship (Christensen & Heavey, 1990). The demand/withdraw pattern has been linked to marital distress in numerous investigations (see Eldridge and Christensen, 2002 for a review), including a recent cross-cultural study (Christensen, Eldridge, Catta-Preta, Lim, & Santagata, 2006). In particular, wife demand/husband withdraw appears to be strongly associated with relationship distress (Christensen & Heavey, 1990); there is also self-report evidence that withdrawal tendencies in either the husband or wife are associated with marital distress (Stanley, Markman, & Whitton, 2002).

Similar to relationship distress, depression has been found to impact numerous aspects of interpersonal communication (see Tse & Bond, 2004 for a review). Depressed individuals have been found to engage in higher levels of reassurance seeking and negative feedback seeking (Joiner, Alfano, & Metalsky, 1993; Joiner & Metalsky, 1995; Joiner, Metalsky, Katz, & Beach, 1999), to be more self-punitive in their interpersonal behavior (Blumberg & Hokanson, 1983), restricted, passive and underresponsive in their interpersonal behaviors (Coyne, Aldwin, & Lazarus, 1981; Lewinsohn & Shafer, 1971), and helpless, sad, pessimistic, vulnerable and generally negative in the content of their statements (Blumberg & Hokanson, 1983; Coyne et al., 1981; Gotlib & Robinson, 1982) relative to non-depressed individuals. These results have been found for self-report instruments, interaction partner reports and objective observer reports (Gotlib & Robinson, 1982).

Existing efforts to merge these two lines of research have resulted in inconsistent findings. Several studies have found that the presence of a depressed partner increases the level of destructive communication patterns found in the interactions of distressed couples. Distressed couples with a depressed partner have been found generally to interact more negatively and less positively (Hautzinger, Linden, & Hoffman, 1982; Sher & Baucom, 1993; Sher, Baucom,

& Larus, 1990; Johnson & Jacob, 2000; Johnson & Jacob, 1997), to exhibit more aggressiveness (Biglan, Hops, Sherman, Friedman, Arthur, & Osteen, 1985), and to exhibit fewer problems-solving behaviors and to be less effective problem-solvers (Basco, Prager, Pita, Tamir, & Stephens, 1992; Christian, O'Leary, & Vivian, 1994) than distressed couples without a depressed partner.

While the bulk of the studies that have looked at the interaction patterns of distressed depressed couples have found differences in communication that are attributable to depression, there are a smaller number of studies that have failed to find such differences. Both Nelson and Beach (1990) and Schmalting and Jacobson (1990) attempted to replicate and to extend the findings of Biglan et al.'s (1985) earlier work. The Biglan et al. (1985) study had compared distressed couples with a depressed partner, non-maritally distressed couples without a depressed partner and non-maritally distressed couples with a depressed partner but had failed to include maritally distressed couples without a depressed partner in their design. Both of the replication efforts included maritally distressed couples without a depressed partner and failed to find any significant differences in interaction patterns that were uniquely attributable to depression (Nelson & Beach, 1990; Schmalting & Jacobson, 1990). Additionally, studies examining the relative contributions of relationship distress and depression to self-reported demand/withdraw communication have failed to find a unique effect for depression (Byrne, Carr, & Clark, 2004). The failure to find an association between depression and demand/withdraw is particularly surprising given the similarities between the interpersonal model of depression (Coyne, 1976) and the pattern of behavior in demand/withdraw (Christensen, 1987). Both the demand/withdraw pattern and the interpersonal model of depression describe efforts by one partner to engage the other in a discussion and a reaction by the other partner to quickly terminate the discussion. This constellation of results has led some researchers to conclude that, "behaviors in depressed couples do not differ from other distressed couples" (Weiss & Heyman, 1997, p. 28).

As a result of these conflicting findings, there is disagreement about whether depression uniquely contributes to the interaction patterns of distressed couples beyond its relationship with marital distress. This paper will attempt to clarify and to extend previous findings by looking at the relationship between marital distress, depression and communication. This paper differs from previous research in several important ways. First, it includes couples in widely varying stages of their relationships and in widely varying levels of marital distress recruited for participation in both treatment and prevention studies. Most existing studies recruited distressed couples with well-developed relationships. This study is unique in its inclusion of satisfied to moderately dissatisfied couples planning marriage, moderately to severely distressed couples seeking marital therapy and severely and stably distressed couples seeking marital therapy. Second, most studies have only used symptom measures of depression. Few studies have used diagnostic measures of depression, and, to the best of our knowledge, no studies have included both symptom and diagnostic measures. It is possible that important differences in communication only appear in individuals with more severe levels of depression that meet criteria for diagnosis. This study will use both symptom and diagnostic measures to determine if differences in communication patterns exist for a range of severity of depressed individuals or if there appears to be a threshold where differences emerge. Finally, depression has been shown to influence a wide variety of communication patterns, but current studies of distressed and depressed couples have reported on a relatively small number of patterns. This study includes several observational coding systems that assess a wide array communication patterns, some of which, such as demand/withdraw, are likely influenced by depression but have yet to be addressed in the existing literature.

We hypothesize that for men and women and for symptom and diagnostic measures of depression in each of the datasets:

Hypothesis 1: Marital satisfaction and depression will be related.

Hypothesis 2: Depression will be related to interaction patterns.

Hypothesis 3: Marital satisfaction will be related to interaction patterns.

Hypothesis 4: After controlling for marital satisfaction, depression will uniquely contribute to the prediction of interaction patterns.

Method

Participants

Sample 1—Participants ($n=132$) are a sub-sample of one hundred and thirty four significantly and stably distressed couples who were recruited for participation in a two-site study of marital therapy being conducted at the University of California at Los Angeles and the University of Washington. The sub-sample of participants used in this paper completed all measures of interest. All measures are taken from an assessment that occurred before therapy began. Please see Christensen, Atkins, Berns, Wheeler, Baucom and Simpson (2004) for a complete description of recruitment procedures, inclusion criterion and study protocol.

Participants in this sample ranged from 22 to 72 years old, with a median age for men of 43 years ($SD=8.8$) and a median age for women of 42 years ($SD=8.7$). They were, on average, college educated (median level of education for both men and women was 17 years, $SD=3.2$) and earning a median annual income of \$48,000 for the men and \$36,000 for the women. Couples were married an average of 10.0 years ($SD=7.7$). The sample was largely Caucasian (77%), with 8% African American, 5% Asian or Pacific Islander, 5% Latino/Latina, 1% Native American, and 4% Other.

Sample 2—Participants ($n=59$) are a sub-sample of sixty distressed couples who were seeking couples therapy either on their own or by the referral of other mental health professionals for marital discord at the Psychology Clinic of the University of North Carolina. The sub-sample of participants used in this paper completed all measures of interest. All measures are taken from an assessment that occurred before any study related marital therapy began. Please see Baucom, Sayers, and Sher (1990) for a complete description of inclusion criterion and study protocol.

Participants in this sample ranged from 24 to 52 years old, with a median age for men of 35 years ($SD=6.7$) and a median age for women of 32 years ($SD=6.0$). They were, on average, college educated (median level of education for both men and women was 16 years, $SD=3.0$ for men and $SD=2.3$ for women). Couples were married an average of 8.1 years. The sample was almost exclusively Caucasian (97%) with 3% African American.

Sample 3—Participants ($n=93$) are a sub-sample of one hundred and thirty five couples who were planning marriage and were recruited for participation in a study of relationship development. The sub-sample of participants used in this paper completed all measures of interest prior to intervention. Please see Markman, Duncan, Storaasli, and Howes (1987) for a complete description of inclusion criterion and study protocol.

Participants in this sample ranged from 16 to 35 years old, with a median age for men of 24 years ($SD=4.0$) and a median age for women of 22 years ($SD=4.0$). They were, on average, college educated (median level of education for both husband and women was 16 years, $SD=1.9$ for husbands and $SD=4.7$ for women). The sample was largely Caucasian (76%) with 3% Latino/a, 1% African American, and 20% other or unknown.

Measures

Depression – symptomatology

Sample 1: Depressive symptomatology was assessed using the COMPASS Treatment Assessment System (COMPASS; Howard, Brill, Lueger, O'Mahoney, & Grisson, 1995). The COMPASS uses 57 Likert-scale items to assess current well-being, current life functioning, and current symptoms of psychological disorders. The depression subscale is comprised of 7 items assessing current symptoms. Standard scoring protocol for the depression subscale was used to compute t-scores. Chronbach's alpha for the depression subscale in this sample was .89 for men and .87 for women. Men's t-scores ranged from 33.43 to 67.99 (mean=40.43, SD=6.70) while women's t-scores ranged from 33.43 to 69.07 (mean=39.65, SD=6.16).

Sample 2: Depressive symptomatology was assessed using the clinical depression scale (scale 2) of the Minnesota Multiphasic Personality Inventory (MMPI; Hathaway & McKinnley, 1951). Standard scoring protocol was used to compute t-scores. Husband's t-scores ranged from 39 to 92 (mean=58.68, SD=12.61) while wives t-scores ranged from 27 to 96 (mean=59.35, SD=14.86). Of the 59 husbands, 23 (39%) were in the mild range ($T < 56$), 23 (39%) were in the moderate range ($70 > T \geq 56$) and 13 (22%) were in the severe range ($T \geq 70$). Of the 59 wives, 29 (49%) were in the mild range ($T < 56$), 17 (29%) were in the moderate range ($70 > T \geq 56$) and 13 (22%) were in the severe range ($T \geq 70$).

Sample 3: Depressive symptomatology was assessed using the Symptom Checklist-90 (SCL-90; Derogatis, Rickels, & Rock, 1976). Standard scoring protocol was used to create scale scores. Husbands' scores ranged from 1 to 47 (mean=13.15, SD=7.90) while wife's scores ranged from 1 to 40 (mean=10.76, SD=7.53).

Depression – diagnostic

Sample 1: Diagnoses of depression were determined using the Structured Clinical Interview-I for DSM-IV (SCID-I; First, Spitzer, Gibbon, & Williams, 1994). For the purposes of this paper, a participant was considered to have an active diagnosis of depression if they met criterion for a current depressive spectrum disorder or for a past depressive spectrum disorder that was not in full remission. Depressive spectrum disorders included dysthymia and major depressive disorder. Please see Christensen, Atkins, Berns, Wheeler, Baucom and Simpson (2004) for a description of procedures used to establish reliability for the SCID in this study. Acceptable reliability was found for both the presence of current (88% overall agreement, kappa = .66, $p < .001$) and past diagnoses (90% overall agreement, kappa = .75, $p < .001$) as well as the presence of the specific diagnosis for current (85% agreement, kappa = .57, $p < .001$) and past disorders (90% agreement, kappa = .72, $p < .001$). Based on this criterion, 19 (14%) men and 15 (11%) women were considered to have diagnoses of depression.

Sample 2: Diagnoses of depression were determined using cutoff scores on the MMPI. The depression scale of the MMPI has been found to be a reliable predictor of clinical diagnoses of depression (Gross, Keyes, & Greene, 2000). For the purposes of this paper, a participant was considered to have an active diagnosis of depression if their depression t-score was 70 or higher (Lachar, 1974; Sher et al., 1990). Based on this criterion, 13 (22%) husbands and 13 (22%) wives were considered to have diagnoses of depression.

Sample 3: Diagnoses of depression were determined using cutoff scores on the SCL-90. The depression scale of the SCL-90 has been found to be a reliable predictor of clinical diagnoses of depression (Kennedy, Morris, Pedley, & Schwab, 2001; Wetzler, & Marlowe, 1993). For the purposes of this paper, a participant was considered to have an active diagnosis of depression if his or her depression scale score was equal to or greater than 26 (Kennedy et al.,

2001). Based on this criterion, 6 (7%) husbands and 7 (8%) wives were considered to have diagnoses of depression.

Marital satisfaction

Sample 1: Marital satisfaction was measured using the Dyadic Adjustment Scale a widely used and well validated self-report measure of marital satisfaction (DAS; Spanier, 1976). Standard scoring protocol was used to create scale scores such that higher scores reflect greater marital satisfaction. Cronbach's alpha for this sample was .89 for men and .87 for women. Men's scores ranged from 40 to 123 (mean=84.36, SD=15.12) while women's scores ranged from 45 to 115 (mean=84.63, SD=14.05).

Sample 2: Marital satisfaction was measured using the Dyadic Adjustment Scale, a widely used and well validated self-report measure of marital satisfaction (DAS; Spanier, 1976). Standard scoring protocol was used to create scale scores. Husbands scores ranged between 49 and 124 (mean=90.8, SD=17.2) while wives scores ranged between 24 and 114 (mean=85.8, SD=17.2)

Sample 3: Marital satisfaction was measured using the Marital Adjustment Test a widely used and well validated self-report measure of marital satisfaction (MAT; Locke & Wallace, 1959). Standard scoring protocol was used to create scale scores. Husbands scores ranged between 54 and 154 (mean=123.2, SD=16.1) while wives' scores ranged between 76 and 155 (mean= 123.9, SD=15.5)

Communication behaviors

Sample 1: Communication patterns were created by combining ratings on interactions coded by the Social Support Interaction Rating System (SSIRS; Jones & Christensen, 1998) and the Couples Interaction Rating System (CIRS2; Heavey, Gill, & Christensen, 2002). Patterns included in this paper are negativity, positivity, problem solving, withdraw, husband demand/wife withdraw, and wife demand/husband withdraw. Please see Sevier, Eldridge, Jones, Doss and Christensen (in progress) for a description of how the negativity, positivity, problem-solving and withdraw scales are created from the SSIRS and the CIRS2. Demand/withdraw scores were created by averaging blame and pressure for change for demand, averaging avoidance, withdraw, and reverse scored discussion for withdraw and then summing across spouses for each interaction. All interactions were coded by teams of three or four undergraduates. Interobserver cronbach alpha's for this sample were .90 for negativity, .60 for withdraw, .80 for positivity, and .71 for problem solving for women and .88 for negativity, .65 for withdraw, .78 for positivity, and .80 for problem solving for men; demand/withdraw interobserver cronbach alpha's were calculated across spouses and were .91 for demand and .82 for withdraw.

Sample 2: Communication patterns were coded using the Marital Interaction Coding System, Version III (MICS III; Weiss & Summers, 1983). Four patterns were used in this paper: avoidance, problem-solving, facilitative communication, and non-constructive communication. Please see Baucom, Sayers, and Sher (1990) for a complete description of coding reliability in this sample.

Sample 3: Communication patterns were coded using the Interacts Dimension Coding System, (IDCS; Julien, Markman, & Lindahl, 1989). Two patterns were created using combinations of the nine categories of the IDCS: global positive (communication skills + problem-solving skills + support/validation + positive affect), and global negative (conflict + dominance + denial + negative affect). Please see Markman, Renick, Floyd, Stanley, and Clements (1993) for a description of coding reliability in this sample.

Results

All regression analyses were run using Stata, version 9 (StataCorp, 2005). Clustered robust standard errors were used to correct for the non-independence of husband and wife data. Random intercepts were used to model couple level differences in all analyses predicting communication behaviors. An alpha level of .05 was used to determine significance of all analyses.

Hypothesis 1: Marital satisfaction and depression will be negatively related

Hypothesis 1 was tested using sex, marital satisfaction and the interaction between sex and marital satisfaction as predictors of depressive symptomatology in a simultaneous linear regression and as predictors of diagnostic depression in a logistic regression.

Sample 1—Contrary to predictions, marital satisfaction was not directly related to depressive symptomatology or to diagnostic depression. There was a significant interaction between sex and marital satisfaction ($\beta = -.24, p < .04$) in predicting depressive symptomatology. Post-hoc analyses revealed that a significant relationship between marital satisfaction and depression occurred only for men ($r = -.22, p < .02$; for women, $p < .74$).

Sample 2—As predicted, marital satisfaction was negatively related to depressive symptomatology ($\beta = -.27, p < .03$). Contrary to predictions, marital satisfaction was not related to diagnostic depression ($p < .06$).

Sample 3—As predicted, marital satisfaction was negatively related to depressive symptomatology ($\beta = -.28, p < .01$). Contrary to predictions, marital satisfaction was not related to diagnostic depression ($p < .09$).

Hypothesis 2: Depression will be related to interaction patterns

Hypothesis 2 was tested using simultaneous linear regressions with sex, depression and the interaction between sex and depression regressed on each communication behavior.

Sample 1—Contrary to the hypothesis, neither symptomatic depression nor diagnostic depression were related to any other communication behaviors (belligerence, withdraw, positivity, husband demand/wife withdraw, and wife demand/husband withdraw).

Sample 2—Contrary to predictions, neither depressive symptomatology nor diagnostic depression were directly related to any communication behaviors (facilitative communication, non-constructive communication, avoidance, and problem-solving). However, the interactions between sex and depressive symptomatology and diagnostic depression were significantly related to avoidance ($\beta = .406, p < .03$; $\beta = .877, p < .05$). Inspection of the coefficients reveals that the effect of depression on avoidance is higher for women than for men.

Sample 3—Contrary to predictions, neither depressive symptomatology nor diagnostic depression were significantly related to any communication behaviors (withdraw, global positive, and global negative).

Hypothesis 3: Marital satisfaction will be related to interaction patterns

Hypothesis 3 was tested using simultaneous regressions with sex, marital satisfaction and the interaction between sex and marital satisfaction regressed on each communication behavior.

Sample 1—As predicted, marital satisfaction was significantly, positively related to positivity ($\beta = .254, p < .01$) and significantly, negatively related to negativity ($\beta = -.376, p < .001$), and

wife demand/husband withdraw ($\beta = -.266, p < .001$). Contrary to predictions, marital satisfaction was not related to withdraw, problem-solving, or husband demand/wife withdraw.

Sample 2—Contrary to predictions, marital satisfaction was negatively related to problem-solving ($\beta = -.338, p < .005$) and was not related to facilitative communication, non-constructive communication, or avoidance.

Sample 3—As predicted, marital satisfaction was significantly, negatively related to global negative ($\beta = -.184, p < .05$). Contrary to predictions, marital satisfaction was not related to withdraw ($p < .45$) or global positive ($p < .45$).

Hypothesis 4: After controlling for marital satisfaction, depression will uniquely contribute to the prediction of interaction patterns

Hypothesis 4 was tested using hierarchical regressions with communication patterns being predicted by sex, marital satisfaction, and the interaction between sex and marital satisfaction entered in the first step, and depression (either depressive symptomatology or diagnostic depression) and the interaction between depression and sex entered in the second step. Thus, the second step included marital satisfaction, depression, as well as sex and the interactions of sex with marital satisfaction and depression, as simultaneous predictors of communication patterns. Results from regressions for hypothesis 4, based on depressive symptomatology, are presented in tables 1 through 4.

Sample 1—Contrary to predictions, neither diagnostic depression nor depressive symptomatology was significantly related to any communication pattern after controlling for marital satisfaction. The interaction between sex and diagnostic depression ($\beta = -.600, p < .05$) significantly added to the prediction of wife demand/husband withdraw after controlling for marital satisfaction. Inspection of the coefficients reveals that the effect of depression on wife demand/husband withdraw is higher for women than for men.

Sample 2—Consistent with predictions, depressive symptomatology was found to be significantly related to avoidance ($\beta = -.291, p < .05$) after controlling for marital satisfaction. Contrary to predictions, neither depressive symptomatology nor diagnostic depression was significantly related to any communication pattern after controlling for marital satisfaction.

Sample 3—Contrary to predictions, neither depressive symptomatology nor diagnostic depression was significantly related to any communication pattern after controlling for marital satisfaction.

Discussion

This study sought to clarify the unique contribution of depression to the interaction patterns of couples after controlling for marital satisfaction. Three different samples of couples in widely differing relationships were analyzed using symptom and diagnostic measures of depression, marital satisfaction measures, and observationally coded interaction behaviors. Results failed to support hypotheses that depression uniquely contributes to the communication behaviors of couples in general. Depressive symptomatology was found to uniquely contribute to avoidance in sample 2. This result should be interpreted with caution as it did not replicate in the other samples. Results also failed to replicate existing findings of relationships between communication behaviors (such as problem-solving behavior) and depression. Very limited evidence was found to suggest that depressive symptoms or diagnoses of depression contribute to macro level interaction behaviors of couples after controlling for marital satisfaction.

Diagnostic depression was found to uniquely contribute to wife demand/husband withdraw for men in sample 1. This result is consistent with predictions (Coyne, 1976) and prior research (e.g., Biglan et al., 1985; Johnson & Jacob, 2000) which suggests that depression contributes to destructive sequences of interaction behaviors in distressed couples. While this result must be interpreted with caution as it did not replicate with the measure of depressive symptomatology, it sheds light on the potential impact of depression on a sequential interaction pattern known to be characteristic of distressed couples.

Several limitations are important to note when considering the results of this study. The level of depression experienced by participants in this study was generally in the mild to moderate range. It is possible that depression is related to interaction behaviors with spouses but only when a spouse is experiencing a more severe level of depression.

In two of the three studies, diagnostic depression was determined using measures (SCL-90 and MMPI) that are designed to be descriptive instruments rather than diagnostic tools, both of which have been found to be reliable predictors of depressive diagnoses (Gross et al., 2000; Kennedy et al., 2001; Wetzler & Marlowe, 1993). It is possible that an instrument designed specifically for diagnosis might have provided a more accurate test of the hypotheses in these two studies. Such a difference is not likely to be dramatic as demonstrated by the use of the SCID in sample 1, which did not produce differing results from samples 2 and 3.

All couples in this study were recruited for participation in a form of psychological counseling or therapy for marital concerns. This strategy may have limited the range of satisfaction scores in each of the samples. While there was considerable variability in marital satisfaction scores in each of the samples, the generalizability of the results of this study to couples drawn from a community sample is limited.

Interaction behaviors were analyzed using coding schemes derived by researchers interested in couple interaction behaviors. It is possible that the coding schemes used in this study were not sensitive to behaviors that are related to depression. For example, Sher and Baucom (1993) found that distressed couples with a depressed partner had greater difficulty understanding the meaning that each partner was attempting to convey relative to distressed couples without a depressed partner.

The setting and nature of the coded interactions may also have contributed to the null findings of this study. All interactions were conducted in a laboratory setting. Previous observational research with couples has found differences in interaction patterns due to level of distress to be suppressed in laboratory tasks as compared to interactions in naturalistic settings (Gottman & Krokoff, 1989). Additionally, all of the observational interactions were problem-solving discussions. Existing findings suggest that depression significantly impacts positive interaction behaviors during positive interactions (Johnson & Jacob, 2000; Jacob & Johnson, 2001). Relationships between depression and interaction behaviors may have been suppressed due to the setting of the interaction tasks in this study.

Future studies could advance the understanding of the impact of depression on the interactions of distressed couples by focusing on additional problematic communication sequences and by replicating the unique contribution of depression to the demand/withdraw interaction pattern after controlling for marital distress. In seeking to determine what kinds of sequences should be examined, it may be of particular benefit to test the components of the Coyne's interpersonal model of depression (Coyne, 1976). The use of interaction tasks that are not predetermined in length, naturalistic settings, interactional tasks that focus on topics other than problems (e.g., social support discussions), coding systems that measure a wider range of interaction behaviors, and samples with wider ranges of depression and marital satisfaction would allow for important analyses of the components of the interpersonal model of depression to be performed.

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Table 1
Positive communication behaviors predicted by marital satisfaction and depressive symptomatology

	Sample 1			Sample 2			Sample 3		
	Positivity			Facilitative Communication			Global Positive		
	B	SE B	β	B	SE B	β	B	SE B	β
Step 1									
Sex	.733	2.338	.064	1.900	12.878	.080	-7.209	4.774	-.170
Marital satisfaction	.066	.022	.254**	.163	.130	.131	.024	.030	.074
Sex X marital satisfaction	-.006	.027	-.022	-.041	.143	.033	.052	.038	.163
Step 2									
Sex	-.213	3.673	.066	-1.449	24.374	.080	-6.977	5.644	-.154
Marital satisfaction	.066	.022	.254**	.176	.136	.141	.029	.031	.091
Sex X marital satisfaction	-.006	.028	-.023	-.032	.161	.026	.051	.042	.162
Depression	-.017	.049	-.029	.060	.174	.038	.041	.059	.070
Sex X depression	.014	.065	.023	.043	.247	-.028	-.011	.082	-.019

Note.

In Sample 1, $R^2 = .08$ for Step 1; $\Delta R^2 = .00$ for Step 2 (ps < .94).

In Sample 2, $R^2 = .02$ for Step 1; $\Delta R^2 = .00$ for Step 2 (ps < .93).

In Sample 3, $R^2 = .04$ for Step 1; $\Delta R^2 = .00$ for Step 2 (ps < .71).

* $p < .05$,

** $p < .01$,

*** $p < .005$

Table 2
Negative communication behaviors predicted by marital satisfaction and depressive symptomatology

	Sample 1			Sample 2			Sample 3		
	Negativity			Nonconstructive Communication			Global Negative		
	B	SE B	β	B	SE B	β	B	SE B	β
Step 1									
Sex	-10.241	5.317	-.373***	-8.15	3.242	-.130	5.361	3.517	.281**
Marital satisfaction	-.242	.050	-.376***	-.046	.032	-.151	-.050	.023	-.184*
Sex X marital satisfaction	.080	.062	.124	.001	.036	.005	-.034	.028	-.127
Step 2									
Sex	-8.681	8.396	-.372***	-6.444	5.915	-.129	4.187	4.196	.299**
Marital satisfaction	-.242	.050	-.378***	-.063	.033	-.206	-.048*	.024	-.177*
Sex X marital satisfaction	.077	.063	.121	.018	.039	.059	-.027	.031	-.099
Depression	.004	.112	.003	-.082	.042	-.214	.019	.045	.039
Sex X depression	-.033	.149	-.023	.071	.060	.186	.028	.062	.055
	Withdrawal			Avoidance			Withdrawal		
Step 1									
Sex	3.450	1.483	.350***	9.770	9.054	.005	1.582	1.549	.327*
Marital satisfaction	-.005	.013	-.030	-.026	.071	-.049	.007	.009	.081
Sex X marital satisfaction	-.031	.017	-.204	-.110	.101	-.204	-.009	.012	-.108
Step 2									
Sex	5.843	2.313	.352***	-10.127	14.321	.006	2.930	1.776	.323*
Marital satisfaction	-.005	.013	-.032	-.069	.074	-.128	.010	.009	.112
Sex X marital satisfaction	-.035	.018	-.224*	-.050	.107	-.092	-.017	.013	-.193
Depression	.019	.030	.053	-.197	.100	-.291*	.017	.018	.102
Sex X depression	-.053	.041	-.151	.247	.134	.365	-.038	.025	-.233

Note.

In Sample 1 when predicting negativity, $R^2 = .17$ for Step 1; $\Delta R^2 = 0.00$ for Step 2 ($ps < .96$); when predicting withdrawal, $R^2 = .07$ for Step 1; $\Delta R^2 = .01$ for Step 2 ($ps < .39$). In Sample 2 when predicting nonconstructive communication, $R^2 = .05$ for Step 1; $\Delta R^2 = .01$ for Step 2 ($ps < .13$); when predicting avoidance, $R^2 = .03$ for Step 1; $\Delta R^2 = .04$ for Step 2 ($ps < .12$). In Sample 3 when predicting negative communication, $R^2 = .11$ for Step 1; $\Delta R^2 = .00$ for Step 2 ($ps < .55$); when predicting withdrawal, $R^2 = .029$ for Step 1; $\Delta R^2 = .01$ for Step 2 ($ps < .32$).

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

Table 3
Problem-solving predicted by marital satisfaction and depressive symptomatology

	Sample 1			Sample 2		
	B	SE B	β	B	SE B	β
Step 1						
Sex	-.1,749	2,762	-.050	-.19,409	9,968	-.099
Marital satisfaction	.035	.024	.129	-.303	.098	-.338**
Sex X marital satisfaction	.018	.032	.069	.202	.111	.225
Step 2						
Sex	-.869	4,268	-.052	-28,254	18,602	-.096
Marital satisfaction	.034	.024	.128	-.308	.102	-.342***
Sex X marital satisfaction	.019	.033	.069	.234	.124	.260
Depression	.023	.055	.038	-.038	.132	-.034
Sex X depression	-.022	2,95	-.037	.104	.187	.092

Note.
In Sample 1, $R^2 = .03$ for Step 1; $\Delta R^2 = .00$ for Step 2 ($ps < .91$).
In Sample 2, $R^2 = .05$ for Step 1; $\Delta R^2 = .01$ for Step 2 ($ps < .83$).
* $p < .05$,
** $p < .01$,
*** $p < .005$

Table 4
Demand-withdraw predicted by marital satisfaction and depressive symptomatology

	Sample 1					
	Husband demand/ wife withdraw			Wife demand/husband withdraw		
	B	SE B	β	B	SE B	β
Step 1						
Sex	3.891	2.562	.654***	-6.114	2.994	-.624***
Marital satisfaction	-.035	.023	-.111	-.098	.030	-.266***
Sex X marital satisfaction	-.011	.030	-.036	.033	.036	.089
Step 2						
Sex	9.879	4.416	.657***	-3.671	4.635	-.613***
Marital satisfaction	-.035	.023	-.114	-.097	.030	-.264**
Sex X marital satisfaction	-.018	.031	-.059	.023	.036	.062
Depression	.051	.049	.073	-.058	.068	-.070
Sex X depression	-.134	.069	-.191	-.039	.082	-.046

Note.

When predicting husband demand, wife withdraw, $R^2 = .12$ for Step 1; $\Delta R^2 = .01$ for Step 2 (ps < .17); when predicting wife demand, husband withdraw, $R^2 = .13$ for Step 1; $\Delta R^2 = .01$ for Step 2 (ps < .12).

*
p < .05,

**
p < .01,

p < .005