DEMAND-WITHDRAW IN THE MARITAL CONTEXT OF DEPRESSION

by

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Abstract

Consistently researchers have demonstrated that marital interactions of couples
with and without a depressed partner differ. Given the high comorbidity of depression and
marital distress, it is unclear whether observed communication patterns are due to marital
distress or depression. Recent investigations suggest that, after controlling for marital
satisfaction, marital communication behaviours may not be specific to depression.
However, depressed groups in these investigations may have consisted of individuals with
a wide range of acute mood states, thus minimizing differences between depressed and
non-depressed mood states. Consistent with cognitive vulnerability models of depression,
depressed individuals' dysfunctional behaviours may manifest only during negative mood
states. The first purpose of the present study was to use a mood induction procedure
(MIP) to examine whether any marital communication were specific to depression, after
controlling for marital satisfaction. The second purpose of the study was to examine
whether communication behaviours predicted depressive symptoms at 6-month follow-
up. The hypotheses were tested in a sample of 69 couples characterized by a wide range
of wife depressive symptoms and couple marital satisfaction. Results of the current study
showed that women who endorsed higher depressive symptoms were more likely to use
high-level negative demands (e.g., use of angry, belligerent tone) and indirect demands
(e.g., use of flirting, whining, or nagging tone) after they received a sad MIP, but
depressive symptoms were not related to these behaviours when there was no MIP.
Interestingly, depressive symptoms were positively correlated with low-level negative
demands (attempts to influence one's partner in a frustrated, defensive manner) regardless
of whether or not wives received a sad MIP. Results also showed that when wives were

induced with a sad mood, husbands of wives who endorsed higher levels of depressive symptoms engaged in more positive demands (e.g., use of warmth and understanding). Additionally, preliminary longitudinal data suggest that, wives who engaged in higher levels of high-level negative demands report lower levels of subsequent depressive symptoms. These findings are discussed in light of interpersonal theories of depression.

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Chapter 1: Introduction

Major depressive disorder (MDD) is a serious and pervasive health problem worldwide (Ustun, Ayuso-Mateos, Chetterji, Mathers, & Murray, 2004). In Canada, approximately 1.35 million people suffer from MDD (Stephens & Joubert, 2001). In addition to the overwhelming personal costs of the disorder, it is estimated that over 250 million dollars are spent on visits to non-medical mental health professionals (e.g., social workers and psychologists) by those who suffer from MDD (Stephens & Joubert). Therefore, research examining factors involved in the maintenance and exacerbation of depression is of great importance as it will allow us to gain a greater understanding of the disorder and thus will help to modify or devise treatments for MDD.

The dominant conceptualization of depression has been to view it as an internal problem that is largely attributable to biological factors and/or faulty thought processes. Although this level of analysis has contributed greatly to our understanding of the possible etiology and course of depression, there is an increasing recognition that it is also important to consider the interpersonal level of analysis. When contrasted with empirical and theoretical advancements in other psychological theories of depression, namely cognitive models of depression, progress in the investigation of interpersonal factors in depression has been relatively slow. Hammen (1999) has suggested that interpersonal perspectives of depression may be more appropriately conceptualized as "an 'approach' or 'focus,' rather than a model or theory, because it is not well enough articulated or tested to attain the status of the latter."

Even though different interpersonal theories such as Coyne's (1976) interactional theory of depression and Hammen's (1991) stress generation model of depression focus on a variety of mechanisms, they are united by a set of coherent philosophical

assumptions (see Rehman, Gollan, & Mortimer, in press). More specifically, they are based on the premise that contextual factors (e.g., marital quality) are important in understanding depressive disorders. Furthermore, they view the relationship between social interactions and depression as dynamic and unfolding over time. Related to this, interpersonal perspectives view depressive disorder as related both to the depressed person's own behaviours and cognitions, as well as the behaviours of significant others in the interpersonal environment (Coyne, 1976; Gotlib & Beatty, 1985; Joiner, Alfano, & Metalsky, 1992; Sacco, Dumont, & Dow, 1993). Lastly, they share a common focus on how depressive behaviours are maintained. For example, according to Coyne (1976), depressed individuals often seek reassurance which is initially met with genuine feedback. However, persistent efforts of reassurance-seeking become aversive to people with whom they interact, and as a result, significant others become frustrated and the content of communications and non-verbal cues become discrepant. For example, the partner's non-verbal cues may indicate irritability while the content of their verbal communication is reassuring. The depressed individual detects this discrepancy, and in turn seeks more assurance, which leads to further aversion and rejection of the depressed individual, and thus the maintenance of depressive behaviours.

Although theoretical advancements may have come to a standstill, emerging data demonstrate that interpersonal processes play a role in the development, maintenance and exacerbation of depression (Joiner, 2000). The data also suggest that the relationship between marital variables (e.g., marital distress and communication behaviours) and depression are bidirectional in nature. For instance, changes in marital satisfaction are associated with changes in depressive symptoms, and vice versa (Karney, 2001). Therefore, rather than examining whether marital distress leads to depression or whether

depression leads to marital distress, researchers should focus on how marital variables and depression interact with one another concurrently. These empirical developments have led to a renewed interest in testing interpersonal factors in depression. As such, one area of focus has been the interpersonal relationships of depressed individuals. In this endeavour, researchers have particularly focused on the ways in which depressed individuals *behave*. Overall, studies have demonstrated that depressed individuals behave in ways that actively and negatively shape their interpersonal environments. For example, compared to non-depressed individuals, depressed individuals generate more interpersonal stress (Hammen, 1991), demonstrate social withdrawal and avoidance (Joiner, 2000), and are deficient in interpersonal problem-solving skills (Gotlib & Asarnow, 1979; Marx, Williams, & Claridge, 1992). Additionally, they are more likely to share dysphoric feelings and negative self-evaluations with their spouses (Hautzinger, Linden, & Hoffman, 1982) and exhibit less eye contact during interactions (Gotlib & Whiffen, 1989). Furthermore, individuals with depression are more often rejected by those in their social environment, presumably as a result of these interpersonal behaviours (Coyne, 1976; Strack & Coyne, 1983). Therefore, an examination of behaviours exhibited by depressed individuals during the course of interactions with significant others in their social environment is warranted to further our understanding of the interpersonal context of depression.

Thus, the first purpose of the current study is to examine the marital interactions of wives with varying levels of depressive symptoms. The focus on the marital relationship is warranted for several reasons. First, the expression of negative affect is much more likely in intimate relationships than in short-term interactions with strangers (Sacco, 1999). This may be due to the fact that society has 'display rules' for negative

emotions which inhibit the display of negative emotions to strangers or distant acquaintances (Karasawa, 2003). Thus, it is assumed that the negative emotions and reactions which have been shown to occur in the course of interactions with strangers and acquaintances can only be more pronounced in interactions with significant others (Gotlib & Hammen, 1992). Second, spouses of depressed people are exposed to a number of negative outcomes stemming from their partner's depression, including a decline in the quality of the marital relationship, disruption to the social environment, loss of social and emotional support, increased stress, and a greater burden of responsibility (Gotlib & Hammen). Additionally, close relationships, such as the marital relationship, have higher ecological validity than stranger interactions because they are more relevant to everyday experiences of individuals with depression (Gotlib, & Robinson, 1982).

Previous observational studies of marital interactions of couples with a depressed partner have found that couples with and without a depressed partner differ in a number of ways. In comparison to couples without a depressed partner, couples with a depressed partner exhibit higher levels of negative behaviour (e.g., verbal aggression) and lower levels of positive behaviour (e.g., involvement, problem-solving, smiling; Basco, Prager, Pita, Tamier, & Stephens, 1992; Jacob & Krahn, 1988). Not only do couples with a depressed partner exhibit more negative behaviours during a marital discussion compared to couples without a depressed partner, they also show increasingly negative verbal behaviour over the course of their interaction (McCabe & Gotlib, 1993). Overall, couples with a depressed partner also exhibit less positive and more negative reciprocity (Jacob & Leonard, 1992), and depressed partners are more likely to engage in discussions of negative issues (Hinchliffe, Vaughan, Hooper, & Roberts, 1977). When compared to non-depressed inpatients, depressed psychiatric inpatients exhibit higher levels of tension,

negative expression, self-preoccupation and diminished nonverbal communication (Hinchliffe, Hooper, Roberts, & Vaughan, 1975).

Thus, overall, researchers have consistently found differences between the marital interactions of couples with and without a depressed partner. In a recent meta-analysis of studies that have examined the association between marital distress and depression, it was concluded that the association between these variables was robust (Whisman, 2001). Further, this finding has been replicated with different samples (e.g., clinical and community) and different methods of measuring depression and marital satisfaction. These findings have led researchers (e.g., Johnson & Jacob, 1997) to question whether the differences between the marital interactions of couples with and without a depressed partner are an artifact of marital distress or represent marital communication behaviours that are specific to depression. Given the strong association between these variables, this is a valid and plausible concern.

To address this concern, several studies have examined the relationship between depression and marital communication behaviours after controlling for marital satisfaction. Some of these studies have demonstrated that depression is uniquely associated with negative marital communication behaviours, even after controlling for marital distress. For example, differences in rates and proportion scores of congeniality (e.g., humour, smiling, laughter) remained between couples with and without a depressed partner even after controlling for marital satisfaction (Johnson & Jacob, 1997). In a more recent study, before and after controlling for marital satisfaction, greater dysphoria in husbands and wives was shown to be significantly related to negative strategies and emotions, and absence of more constructive strategies during a conflict resolution task (Schudlich, Papp, & Cummings, 2004). However, other studies have found that, after

controlling for marital satisfaction, depression exerts very little impact on marital communication behaviours. For example, maritally distressed couples with a depressed partner did not differ in facilitative and aggressive behaviour when compared to distressed couples in which neither partner was depressed (Nelson & Beach, 1990). Similarly, after covarying marital satisfaction, Ruscher and Gotlib (1988) found that couples with and without a depressed partner did not differ in proportions of positive and negative verbal behaviour. Further evidence suggesting that depressed-nondepressed differences in marital interaction may be an artifact of differences in marital satisfaction comes from a study by Baucom and colleagues (2007). The study included couples at widely varying stages of their relationship, with varying levels of marital satisfaction, clinical and community samples, and included both symptom and diagnostic measures of depression. The authors found that after controlling for marital satisfaction, neither diagnostic depression nor depressive symptomatology was related to any observed communication pattern. Overall, the majority of the research, particularly Baucom and colleagues (2007), suggest that depression appears to contribute little to marital communication behaviours after controlling for marital satisfaction.

However, it may be premature to rule out the role of depression in marital communication behaviours. While a number of different behaviours have been examined in marital interactions of couples with a depressed partner (e.g., affect, problem-solving skills, etc.), a limited number of studies (e.g., Uebelacker, Courtnage, & Whisman, 2003; Byrne, Carr, & Clark, 2004) have focused on the demand-withdraw interaction pattern, as it pertains to depression. In the broadest terms, the demand-withdraw marital interaction pattern can be viewed as a negative attempt to influence one's partner and the partner's attempt to resist that influence (Caughlin & Huston, 2002). Demand-withdraw is more

likely to be exhibited by maritally-distressed than non-distressed couples (e.g., Christensen & Heavey, 1990; Christensen & Shenk, 1991), and given the high comorbidity of depression and marital distress (Whisman, 2001), the examination of this communication pattern, as it pertains to depression, is warranted. Recent research has demonstrated that there may be a link between depression and demand-withdraw. Uebelacker and colleagues (2003) found that self-reported frequency of wife-demand/husband-withdraw is related to depressive symptoms in both men and women. There was also a trend for self-reported frequency of wife-demand/husband-withdraw to have a stronger correlation with depression in women than men. A more recent study examining the relative contributions of relationship distress and depression toward self-reported demand-withdraw communication failed to find a unique relationship between demand-withdraw and depression (Byrne et al., 2004). The contradictory nature of these findings is probably due to the fact that Uebelacker and colleagues (2003) did not control for levels of marital satisfaction. Further, similar to other marital communication studies, the depressed sample in the study by Byrne and colleagues (2004) may have consisted of individuals with a wide range of acute mood states, therefore minimizing depressed-nondepressed differences in current mood states. Although depression is characterized by a predominantly low mood, people with depression experience mood fluctuations throughout an episode of depression. Hence, they may be more likely to participate in a research study when their mood is somewhat elevated.

The current study will address these limitations by considering levels of marital satisfaction and examining demand and withdraw behaviours while wives are experiencing an experimentally-induced sad mood. Aside from the positive association between marital distress and depression, it is also essential to control for levels of marital

satisfaction because the focus of the current study is communication within the marital relationship.

Researchers examining cognitive vulnerability to depression have also been concerned with current mood states in that depressive cognitions may not be accessible to the individual unless whilst experiencing a current low mood (Miranda & Persons, 1988). These researchers have devised mood induction procedures (MIPs) to address these concerns, and they have been successful in demonstrating differences in cognitive vulnerability before and after a sad mood induction (e.g., Segal, Gemar, & Williams, 1999). Studies investigating other depression-relevant behaviours have also been successful in implementing this method; MIPs have been shown to affect psychomotor-retardation, loss of pleasure, helpfulness, behaviour in social situations, and illusion of control (Clark, 1983; Martin, 1990). Thus, borrowing from these previous findings in the literature, a sad MIP was used in the current study to remedy previous failures to demonstrate depression's unique relationship with marital communication behaviour. Consistent with cognitive vulnerability models of depression, depressed individuals' dysfunctional behavioural patterns may manifest only during negative mood states.

Objective 1: Cross-Sectional Association of Marital Communication Behaviours and Depression

The first purpose of the present study was to use an experimental design to examine how wives' depressive symptoms were related to marital communication behaviours in the absence and presence of an experimentally-induced sad mood, after controlling for marital satisfaction. The current study focused solely on female depression, because of evidence suggesting that women have a more interpersonal

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orientation than men (Nolen-Hoeksema & Girgus, 1994) and thus given this greater

interpersonal orientation, stressors experienced by women are more likely to influence

interpersonal domains than are stressors experienced by men. Previous research has

indeed demonstrated that depressive symptoms reported by wives are more strongly

related to marital communication and the marital relationship itself when compared to

depressive symptoms reported by husbands (Jacob & Johnson, 1997). Furthermore, the

incidence of MDD is much more frequent in women than men (Nolen-Hoeksema, 1987).

This study contributed toward the existing literature by specifying the various

ways in which spouses attempt to engage their partners and the ways in which they

disengage. It is possible that engagement in certain types of negative and positive

demands and withdrawals have greater implications in the maintenance and exacerbation

of depression. Therefore, I differentiated between measures of high-level and low-level

negative demands, and included measures of indirect and positive demands. In the current

study, high-level negative demands were conceptualized as demands stated in a

domineering, belligerent, hostile or angry tone of voice. Low negative demands were

demands stated with annoyance, frustration or defensiveness. Indirect demands were

demands stated in a flirting, whining, nagging and pleading tone, and also included

attempts to induce guilt in one's partner. Positive demands were conceptualized as

demands stated with warmth, humor, understanding, validation, collaboration, and may

also have a sentiment of shared responsibility. Affective tone is important to consider as it

influences the negativity and positivity of the content of the demand. For example, a wife

who says "You never praise me for things I do well" with a forceful angry tone could be

considered as using an aggressive attempt to dominate the other partner, while the same

phrase said in a whiny tone may be considered as an attempt to induce guilt in the other

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partner. Furthermore, two different measures of withdrawal were also included to assess the ways in which spouses disengaged from discussion. Negative withdrawals were withdrawing behaviours, such as looking away, accompanied by anger, frustration or annoyance. Sad withdrawals were withdrawing behaviours accompanied by crying or frowning, and could be preceded by statements indicating hopelessness.

Hypotheses 1-6. It was predicted that there would be an interaction between spouse, mood induction and wives' depressive symptoms, such that: after inducing sadness via a MIP and controlling for levels of marital satisfaction, wives with higher depressive symptoms would engage in more high-level negative demands (*hypothesis 1*), low-level negative demands (*hypothesis 2*), indirect demands (*hypothesis 3*), and less positive demands (*hypothesis 4*). Furthermore, it was predicted that wives with higher depressive symptoms would engage in more negative withdrawal (*hypothesis 5*) and sad withdrawal (*hypothesis 6*). However, without a sad MIP and after controlling for levels of marital satisfaction, wives' depressive symptoms would not be predictive of their use of any of the demands or withdrawals. Cross-spouse effects (i.e., whether wives' depressive symptoms would predict husbands' behaviours) were also investigated, however, these analyses were exploratory, and thus no specific predictions were made.

Objective 2: Longitudinal Association between Marital Communication and Depression

While it is instructive to examine the role of marital communication behaviours in depression using cross-sectional designs, only longitudinal investigations can inform us of the role of psychosocial factors in the course of depression. Epidemiological data suggest that depression is best conceptualized as a recurrent and progressive condition; Between 50 and 85% of individuals diagnosed with MDD will experience multiple

episodes (Judd, 1997), and the risk of recurrence increases with each successive episode (Keller & Boland, 1998). Clearly, relapse prevention is a high priority for depression researchers and the success of relapse prevention efforts depends on the ability to identify mechanisms that place certain individuals at an elevated risk for the maintenance and chronicity of depressive symptoms. Further evidence for the need for longitudinal research comes from findings that marital communication behaviours related to marital distress cross-sectionally may differ from behaviours that relate to marital satisfaction longitudinally (e.g.,Weiss & Heyman, 1990). In other words, communication behaviours that are related to *concurrent* marital distress actually predict *increased* marital satisfaction in the long term. This may also be relevant to predicting depression from marital communication behaviours in that communication behaviours that are related concurrently to depression may actually predict lower levels of subsequent depression, such that the relationship is mediated by marital satisfaction. Lastly, our understanding of the longitudinal relationship between marital satisfaction, communication and depression is limited due to a paucity of research in this area (for exceptions see Cohan & Bradbury, 1997; Davila, Bradbury, Cohan, & Tochluk, 1997). Taken together, findings from Cohan and Bradbury (1997) and Davila and colleagues (1997) suggest that high levels of negative behaviours (e.g., sadness, negative social support) and low levels of positive behaviours (e.g., expressing understanding) are predictive of subsequent marital distress and depressive symptoms. Results also provide evidence for cross-spouse effects (i.e., the effect of a variable associated with one spouse on a variable associated with the other spouse); problem solving behaviour of one's spouse moderated the relationship between one's life events and subsequent marital satisfaction as well as one's depressive symptoms (Cohan & Bradbury). Thus, the second purpose of this study was a preliminary

examination of whether or not demand and withdraw behaviours contribute toward subsequent levels of depressive symptomatology, after controlling for marital satisfaction and depressive symptoms at time 1.

Hypotheses 7-12. It was hypothesized that higher levels of wife high-level negative demands (*hypothesis 7*), low-level negative demands (*hypothesis 8*), indirect demands (*hypothesis 9*), negative withdrawal (*hypothesis 10*) and sad withdrawal (*hypothesis 11*) would be associated with higher subsequent depressive symptomatology. However, it was expected that higher levels of positive demands would be associated with lower subsequent depressive symptomatology (*hypothesis 12*). Cross-spouse effects (i.e., whether husbands' behaviours predict wives' subsequent levels of depression) were also investigated, but these analyses were exploratory and thus no specific predictions were made.

Chapter 2: Method

Participants

The participants were 69 heterosexual couples recruited from Kingston, Ontario and surrounding regions. Participants were recruited through fliers at local social service agencies and hospitals, and letters to local mental health providers. To be eligible to participate: (a) couples had to be married or cohabiting, (b) both partners had to be willing to participate, and (c) both partners had to be able to read and write in English. Couples were excluded from the study if the wife met Diagnostic and Statistical Manual of Mental Disorders-IV (DSM-IV) criteria for: (1) Bipolar Disorder (past or present); (2) diagnosed schizophrenia, schizophreniform disorder or paranoid disorder; (3) organic brain syndrome; (4) intellectual disability; (5) Substance Abuse Disorder (current or within the past 6 months); (6) anorexia or bulimia; (7) imminent suicide risk; or (8) currently receiving psychotherapy. These exclusion criteria were designed to increase the internal validity by ensuring that the results would be specific to depression. Given that anxiety is highly comorbid with depression, it was not included as an exclusion criterion, because a large number of participants would be excluded and therefore, the sample would not be representative. All wives participated in an initial screening interview (described below) to ensure that they did not meet any of the exclusion criteria. Husbands were not subjected to inclusion/exclusion criteria.

Ninety-two couples expressed initial interest in the study. Four couples were excluded because the wives endorsed psychotic symptoms and/or met criteria for past bipolar disorder during the initial screening interview, three couples were excluded because the male partner was unwilling to participate in the study protocol, and nine

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couples did not show up for their appointment. A total of 76 couples participated in the study. However, a number of couples were excluded from analyses of the observational data for the following reasons: observational data for three couples were lost due to a hard drive crash; one couple was incomprehensible due to heavy accents; one couple did not want to participate in the videotaped discussions; and two couples were excluded due to missing data. Thus a total of 69 couples were included in the analyses.

Follow-up data were gathered approximately six months after the initial assessment, and 41 couples from the original sample have returned thus far (the data for the current study are part of a longitudinal multi-wave study that is currently in progress). Five couples could not be reached despite multiple efforts to contact them, six couples withdrew from the study and did not want to participate in the time 2 component, three couples had moved away and new contact information was not available, and 16 couples were not included in the present study analyses because their follow-up assessment had not arrived by the time the current analyses were conducted. Of the 41 couples who participated in the follow-up component, two couples were missing observational data from time 1. Therefore, 39 couples were included in the analyses of longitudinal data. Couples who completed their follow-up assessments did not differ from couples whose follow-up data were not available in wives' depressive symptoms at time 1, as measured by the BDI-II, $t(65) = -0.72$, ns, or in their initial marital satisfaction, $t(65) = -0.38$, ns.

The average monthly income for the couples that participated in the initial assessment was Cd $2072 ($SD = 1735) for husbands and Cd $1802 ($SD = 1320) for wives. The mean age for husbands and wives was 34.67 ($SD = 12.45$) and 33.37 ($SD = 11.52$), respectively. On average, husbands had completed 15.67 years ($SD = 2.69$) of education and wives had completed 14.43 years ($SD = 3.49$). Of the wives in the current

sample, 84.06% self-identified as Caucasian, 1.45% as Hispanic, 4.34% as Asian, 1.45% as First Nation, and 8.70% endorsed the "other" category. Similarly, 81.16% of the husbands in the current sample self-identified as Caucasian, 2.90% as African-Canadian, 1.45% as Hispanic, 4.34% as Asian, 1.45% as First Nation, and 8.7% endorsed the "other" category. The average relationship length of the sample was 8.45 years ($SD =$ 7.43). On average, the couples had 1.43 ($SD = 1.77$) children.

The data for the current study were collected as part of a larger longitudinal investigation of the marital context of depression and interested participants had to be willing to participate in a 4-hour study protocol. All participants were given monetary compensation at the rate of $60.00/couple for the complete assessment. Husbands and wives were assessed in separate rooms and each spouse's data were kept confidential from his/her partner.

Measures

Telephone Screening. The telephone assessment was administered only to the wives and was used as an initial screening tool to exclude participants that were inappropriate for the study. All screening questions were adapted from the Structured Clinical Interview for DSM-IV Axis I Disorders (SCID-I; First, Spitzer, Gibbon, & Williams, 1997).

Structured Clinical Interview for DSM-IV Axis I Disorders (SCID-I; First, Spitzer, Gibbon, & Williams, 1997). The SCID is a standardized semi-structured clinical interview that asks open-ended questions about lifetime and current DSM-IV psychiatric disorders and differential diagnoses. The SCID is comprised of modules with questions carefully designed to map onto each specific DSM-IV diagnostic criterion, also allowing the interviewer to ask additional questions to clarify and review the criteria. Data include age

of onset, episode number and duration, symptom profile, severity, and the number and duration of full remission intervals. Research assistants who were trained and supervised by an experienced interviewer conducted the SCID interviews and all the SCID interviews were videotaped for reliability purposes. Twelve wives met diagnostic criteria for current major depression, while 28 met criteria for history of depression, and 29 had never met diagnostic criteria for depression. For husbands, 5 met diagnostic criteria for current major depression, while 24 met criteria for history of depression, and 40 had never met diagnostic criteria for depression. Reliability analyses were conducted on 20 randomly selected SCID interviews and had three independent judges categorize each of the participants into one of the three diagnostic groupings: never-depressed, remitted-depressed, and currently-depressed. Inter-rater agreement, as measured by Cohen's kappa, was found to be .90.

The Beck Depression Inventory-II (BDI-II; Beck, Steer, & Brown, 1996). The BDI-II is a 21-item self-report measure designed to evaluate the severity of depressive symptoms in the past two weeks. According to Beck et al. (1996), BDI–II total scores ranging from 0 to 13 represent normal to minimal depression; 14 to 19 are mild; 20 to 28 are moderate; 29 to 63 are severe. The BDI-II has demonstrated internal consistency, test-retest reliability, construct validity, and factorial validity (Beck, Steer, Ball, & Ranieri, 1996; Steer, Rissmiller, & Beck, 2000). In the present study, the internal consistency of the measure was high (α = .91 for husband and .94 for wives).

Dyadic Adjustment Scale (DAS; Spanier, 1976). The DAS is a 32-item measure that assesses various aspects of the marriage, such as affection, similarity of values, and global satisfaction. Higher scores are indicative of better dyadic adjustment. As per Nelson and Beach (1990), scores below 100 are indicative of marital discord. Numerous

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investigations have demonstrated that it is both a reliable and valid measure that discriminates between happily and unhappily married couples (Spanier). In the present study, the internal consistency of the measure was high ($\alpha = .90$ for husband and .95 for wives).

Desired Change Questionnaire (DCQ; Heavey, Layne, & Christensen, 1993; Appendix A). The DCQ is the most widely-accepted and used method for choosing topics for marital problem-solving tasks. The DCQ is a 20-item questionnaire used to determine the extent to which each spouse wants change in different areas of their partner's behaviour. For each area (e.g., show me affection, financial issues), the spouse rated the amount of change desired on a 7-point scale, from 1 (*no change*) to 7 (*much more change*). They were also asked to list at least two more issues on which they would like their partner to change. Next, study participants were asked to rank order their three most important issues. Assessors chose from these top three topics, choosing one area in which the wife desired the most change and one area in which the husband desired the most change. To ensure that there were no discrepancies in the desire for change across husband and wife topic, the topics were chosen so that they did not differ by more than two points (on the 7-point scale used by respondents to indicate how much they want their spouse to change on that particular issue). For example, assume that a wife rated her first topic as a 7, the second as a 6, and the third as a 6. The husband, however, rated his first topic only as a 4. In this case, the wife's second topic, rather than the first one, would be chosen as the wife topic. The rationale for doing this is that large differences in how strongly the partners feel about their issues may introduce a confound into the study.

Visual Analogue Scale (VAS; Appendix B*).* Participants rated their current mood on a visual analogue scale 128 mm in length. One end of the line is marked as "Extremely

Happy" and the opposite end is marked as "Extremely Sad". The midpoint is marked as "Neutral-neither happy nor sad". Higher measurements indicate lower moods. This was used as a manipulation check to ensure that the mood induction was effective in producing mood change. Indeed, a paired sample t-test showed that wives reported a lowered mood after the mood induction, $t(68) = -6.65$, $p<.001$. A paired sample t-test was also conducted to ensure that wives endorsed significantly lower mood prior to the mood-induction discussion, as compared to the discussion that was not preceded by a mood induction. Again, the results demonstrated that the mood induction was successful in inducing a lower mood, $t(68) = 5.80$, $p<.001$. To ensure that mood change was not confounded by depressive symptoms, a correlation between wife depressive symptoms and difference in mood ratings on the VAS before and after the mood induction was calculated and the results were not significant, $r(69) = .07$, *ns*. Furthermore, an independent samples t-test was conducted to ensure that wives in the two mood induction conditions did not differ in mood ratings prior to the discussion for which they did not receive a mood induction. Results showed that wives in the two mood induction conditions did not differ, $t(67) = 0.48$, *ns*. Lastly, an independent samples t-test was conducted to ensure that wives in the two mood induction conditions did not differ in mood ratings prior to receiving the sad mood induction. It was revealed that the two groups did not differ, $t(67) = 0.82$, *ns*.

Procedures

All participants were told that they would be participating in a study investigating the effects of mood and communication on relationship functioning. Participants were then asked to sign an informed consent once a complete description of the study was

given. Husbands and wives were then assessed in separate rooms by two trained undergraduate and/or graduate research assistants. Each partner completed clinical interviews (SCID), a series of questionnaires (DCQ, DAS, BDI), and were then brought together into the same room and engaged in two videotaped marital problem-solving discussions; one in which the husband wanted a change, and one in which the wife wanted a change. The order of husband and wife topic was counterbalanced across subjects. The problem-solving discussion is a standard laboratory task used to assess marital communication patterns (Christensen & Heavey, 1990). Using each partner's DCQ, as explained above, the assessors chose two topics for the couple to discuss - one wife topic (i.e., a change the wife wants in the husband) and one husband topic (i.e., a change the husband wants in the wife). The interactions were videotaped and later rated.

Prior to one of the discussions, wives received a sad mood induction; for half of the wives, the mood induction occurred prior to the husband topic, and the other half prior to the wife topic (see procedure in Figure 1). The wife was asked to think about a sad time in her life as she listened to the music and was asked to write this event on a piece of paper. "Russia under the Mongolian Yoke" (1934) by Profokiev from the film *Alexander Nevsky* was played at half speed and participants were asked to indicate their mood on a visual analogue scale prior to and following the musical mood induction. This type of mood induction has been found to be effective in inducing a transient dysphoric mood (Martin, 1990) and has been used in a number of previous studies (e.g.,Gemar, Segal, Sagrati, & Kennedy, 2001; Segal, Gemar, & Williams, 1999; Van der Does, 2002).

With the exception of a positive topic discussion and absence of a mood induction procedure, procedures at time 2 were similar to time 1, and BDI scores were the only data used from the time 2 data collection.
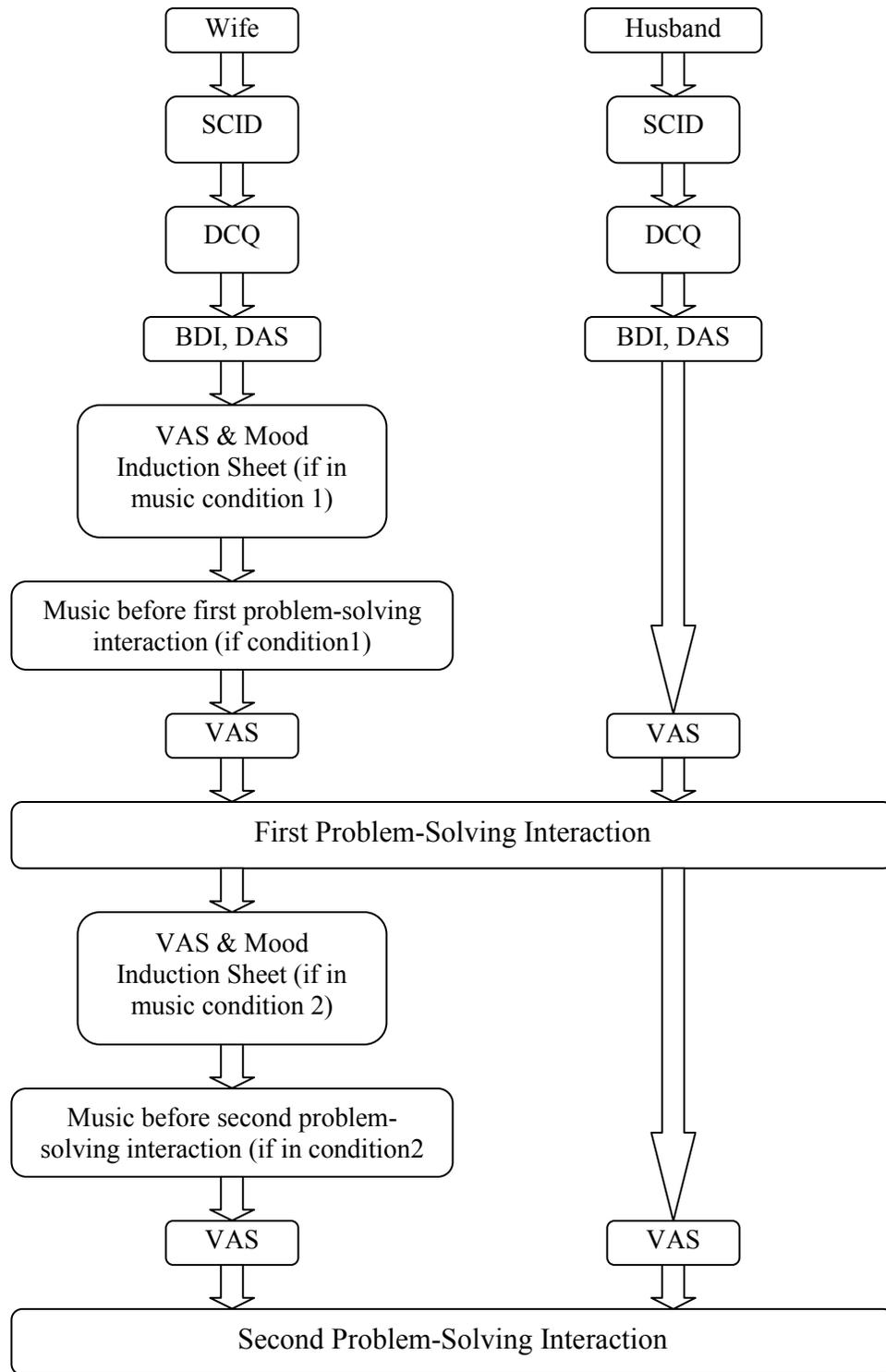
Figure 1. Time 1 study procedures.

Coding and Codes

Demand Withdraw Coding System (Adapted from Global Power Coding System, J. Jones & A. Christensen, 1998, and Christopher L. Heavey, Debra Gill, & Andrew Christensen, 1998; Appendix C). The present study used a coding system adapted from the Conflict Rating System (CRS; Christensen & Heavey, 1990), which is a well-established coding system used to rate demand-withdraw behaviour during marital problem solving discussions. The CRS is a global coding system that consists of 18 behavioural dimensions, 8 of which are used to rate demand/withdraw. Behavioural categories were chosen from the CRS and were modified.

The resulting coding system had five demand codes (high-level negative, low-level negative, indirect, positive and neutral) and three withdrawal codes (negative, sad and neutral). Behaviours that did not fit in any of the demand or withdrawal codes were coded as neutral. Additionally, when couples were inaudible or out of range of the camera, they were coded as uncodable.

High-level negative demands were demands for change stated in a domineering, belligerent, contemptuous, hostile, disgusted, highly frustrated or angry tone of voice. *Low-level negative demands* were requests for change stated with annoyance, frustration, or a defensive tone. *Indirect demands* were demands stated in a flirting, whining, nagging and pleading tone. *Positive demands* were demands stated with warmth, humor, understanding, validation, and collaboration and indicated a sense of shared responsibility. Withdrawing behaviour was coded under *sad withdrawal* if it was accompanied by sad affect. *Negative withdrawal* was withdrawal behaviour accompanied by angry affect or immediately followed an angry verbal or nonverbal behaviour. Demands and withdrawals that did not fit any of the demand or withdrawal categories

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were coded as neutral demands and neutral withdrawals, respectively. For detailed descriptions of each behavioural code, please refer to Appendix C.

Five coders were trained for an 8-week period. Once the group attained an acceptable level of reliability (inter-rater agreement, as measured by kappa > .70), they began to code actual study data. Furthermore, throughout the coding period, weekly coding meetings were conducted to minimize coder drift. Two or more observers independently coded 16% of all the problem-solving discussions to assess coder agreement. Inter-observer agreement, as measured by kappa, for each of the behavioural codes were as follows: high-level negative demands = 0.81; low-level negative demands = 0.72; indirect demands = 0.73; positive demands = 0.77; sad withdrawal = 0.70; angry withdrawal = 0.71). Overall, the average inter-observer agreement, as measured by kappa, on the occurrence of demand-withdraw codes (using a ± 2 s window) was 0.73.

Coders used Noldus Observer 5.0 to code the marital interactions. Data were recorded using a timed-event approach (i.e., the presence of behaviours, and onset and offset times were recorded). The data for each behavioural code were then converted into a percentage score which represented the portion of the duration of the marital discussion when each participant exhibited a particular behaviour. This method was preferred, because I was interested in capturing duration information. To account for minor variations in the duration of the marital discussions, I converted the raw duration data into percentages.

Chapter 3: Results

Preliminary Analyses

  Depressive Symptoms and Marital Satisfaction. At time 1, wives' BDI scores

ranged from 2 to 46 ($M = 13.79$, $SD = 11.75$). Sixty-two percent of wives scored in the

normal to minimal depression range, 9% scored in the mild range, 14.5% scored in the

moderate range and 14.5% in the severe range. Husbands' BDI scores ranged from 0 to

42 ($M = 9.88$, $SD = 9.55$). Sixty-nine percent of husbands scored in the normal to minimal

depression range, 16% scored in the mild range, 12% in the moderate range and 3% in the

severe range. Wives' DAS scores ranged from 57 to 143 ($M = 111.21$, $SD = 16.35$), while

husbands' DAS scores ranged from 75 to 145, ($M = 109.18$, $SD = 14.06$). Twenty-one

percent of wives scored in the discordant range, while 28% of husbands scored in the

discordant range. At time 2, wives BDI scores ranged from 0 to 25, $M = 8.36$, $SD = 6.87$;

77% scored in the normal to minimal depression range, 15% in the mild range and 8% in

the moderate range.

  Wives' initial depressive symptoms were correlated with couples' marital

satisfaction, $r(67) = 0.53$, $p<.001$. Thus, in testing hypotheses 1-6, I re-analyzed the data

with marital satisfaction as a covariate and the results did not differ in their significance

or the direction of the findings from those described below. Husbands' initial depressive

symptoms did not correlate significantly with wives' initial depressive symptoms, $r(67) =$

.09, *ns,* and thus, were not included as a covariate in analyses. And husbands' initial

depressive symptoms were correlated with their marital satisfaction, $r(68) = -0.36$, $p<.05$.

Descriptives for Marital Communication Behaviours. Descriptives for percent duration of marital interaction in each demand and withdraw behavioural category are displayed in Table 1.

Table 1

Mean Percent Duration of Observation in Each Behavioural Category

	Wife		Husband	
	Mood Induction Topic *M*(*SD*)	No Mood Induction Topic *M*(*SD*)	Mood Induction Topic Topic *M*(*SD*)	No Mood Induction Topic *M*(*SD*)
High Negative	4.77 (8.50)	4.29 (8.02)	2.70 (5.50)	1.94 (4.17)
Low Negative	3.67 (5.52)	5.85 (8.39)	4.29 (6.51)	3.89 (7.02)
Indirect	4.42 (6.76)	2.92 (4.91)	0.98 (1.58)	0.92 (3.00)
Positive	2.33 (4.45)	2.19 (4.36)	2.90 (8.32)	2.61 (4.28)
Negative Withdrawal	1.07 (1.61)	1.25 (3.17)	1.84 (4.42)	1.48 (3.65)
Sad Withdrawal	1.61 (7.08)	1.58 (6.02)	0.10 (0.46)	0.38 (1.14)

Overview of Analyses for Objective 1

The mixed model procedure in SPSS v. 14 was used to test hypotheses 1-6. Mixed model analyses were preferred over more traditional ANOVA and regression approaches given that dyads were the unit of analysis and that interdependency in spousal behaviour is not taken into account in traditional models. Mixed models also allow for the examination of interactions between variables that are measured at different levels of analysis (i.e., in this case variables at the dyad level and those at the individual level). The six models that were used to test the hypotheses were distinguished by the dependent

variable examined. Each model had one of six behavioural categories as the dependent variable: high-level negative demands, low-level negative demands, indirect demands, positive demands, sad withdrawal, and negative withdrawal. Each model contained one continuous variable (wives' BDI score), and two categorical repeated measures variables (spouse: husband and wife; mood induction: absent and present). Both categorical variables were effects-coded (Spouse: Wife = +1; Husband = -1; Mood Induction: Present = +1; Absent = -1). Given that participants were distinguishable on the repeated measures variables, heterogeneous compound symmetry was specified as the covariance type (Kenny, Kashy, & Cook, 2006). Consistent with recommendations made by Aiken and West (1991), wives' BDI scores were centered to reduce multicollinearity and to enhance the interpretability of the regression coefficients. Lastly, all of the corresponding interaction terms were included in the model. Thus, the general model that was tested can be represented as

$Y' = \beta_o + \beta_1 X + \beta_2 Z + \beta_3 W + \beta_4 X * Z + \beta_5 X * W + \beta_6 Z * W + \beta_7 X * Z * W$, where Y' is the predicted value of the dependent variable; β_o is the intercept; β_1 is the regression coefficient for wives' BDI scores (X); β_2 is for spouse (Z); β_3 is for mood induction (W); β_4 is for the interaction between wives' BDI scores and spouse; β_5 is for the interaction between wives' BDI scores and mood induction; β_6 is for the interaction between spouse and mood induction; β_7 is for the interaction between wives' BDI scores, spouse and mood induction.

Results for Objective 1 Hypotheses 1-6

  Hypothesis 1: High-Level Negative Demands. (See Table 2). There was a significant main effect for spouse, such that wives engaged in significantly higher levels of high-level negative demands than husbands, $\beta = 1.10$, $t(175.59) = 3.09$, $p<.05$. This main effect was qualified by a two-way interaction between wives' BDI scores and spouse, $\beta = 0.13$, $t(175.59) = 4.33$, $p<.05$, and a three-way interaction between wives' BDI scores, spouse and mood induction, $\beta = 0.06$, $t(173.91) = 2.06$, $p<.05$. The significant two-way interaction is interpreted in light of the higher-order three-way interaction. To examine the three-way interaction more closely, I conducted a simple slopes analysis for wives. The interaction between mood induction and wives' BDI scores was significant for wives, $t(114.29) = 2.19$, $p<.05$. To interpret the two-way interaction for wives, I examined the effect of wives' BDI on high-level negative demands when induction was present and when there was no mood induction. Results showed that when wives received a mood induction, higher BDI symptoms predicted greater use of high-level negative demands, $t(69.60) = 4.09$, $p<.05$. However, when there was no mood induction, there was no association between wives' BDI scores and use of high-level negative demands, $t(68.41) = 1.20$, *ns* (See Figure 2).

Table 2

Summary of Linear Mixed-Model Analysis with High-Level Negative Demands as the Dependent Variable

Predictor	df^1	Coefficient	SE	t
BDI	69.28	0.08	0.04	1.82
Spouse	175.59	1.10	0.36	3.09*
Mood Induction	173.41	0.31	0.35	0.89
BDI x Spouse	175.59	0.13	0.03	4.33*
BDI x Mood Induction	173.41	0.05	0.03	1.64
Spouse x Mood Induction	173.91	-0.07	0.35	-0.20
BDI x Spouse x Mood Induction	173.91	0.06	0.03	2.06*

*$p<.05$.

[1] Repeated measures variables were used to compute the degrees of freedom for each main effect and interaction term included in the model; hence, degrees of freedom can be non-integer values and typically vary from one analysis to the other (Campbell & Kashy, 2002; Kashy & Kenny, 2000).
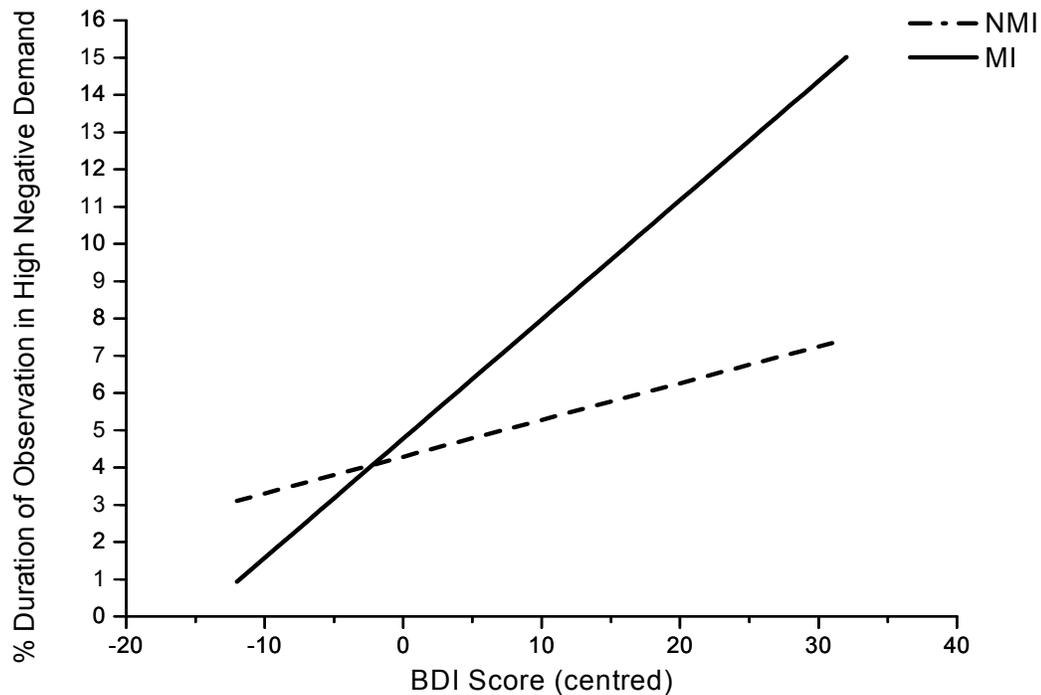
Figure 2. Relationship between wives' BDI scores and wives' level of high-level negative demand as a function of presence of mood induction (NMI = no mood induction; MI = mood induction).

Hypothesis 2: Low Negative Demands. (See Table 3). There was a significant interaction between wives' BDI scores and spouse, $\beta = 0.10$, $t(188.64) = 3.25$, $p<.01$. Additionally, there was a marginally significant interaction between mood induction and spouse, $\beta = -0.65$, $t(187.21) = -1.85$, $p<.10$. Simple slopes analysis was conducted to examine the effect of wives' BDI scores on wives' low negative demands. Results showed that wives' BDI scores predicted their use of low negative demands, $t(76.52) = 2.22$, $p<.05$, such that wives with higher BDI scores engaged in higher levels of low negative demands.

Table 3

Summary of Linear Mixed-Model Analysis with Low Negative Demands as the Dependent Variable

Predictor	df	Coefficient	SE	t
BDI	68.90	0.01	0.05	0.20
Spouse	188.64	0.33	0.35	0.96
Mood Induction	186.15	-0.44	0.35	-1.26
BDI x Spouse	188.64	0.10	0.03	3.25*
BDI x Mood Induction	186.15	0.01	0.03	0.47
Spouse x Mood Induction	187.21	-0.65	0.35	-1.85†
BDI x Spouse x Mood Induction	187.21	0.01	0.03	0.22

*$p<.05$. † $p<.10$.

Hypothesis 3: Indirect Demands. (See Table 4). There was a significant main effect for spouse, such that wives engaged in significantly higher levels of indirect demands, $\beta = 1.36$, $t(151.62) = 5.19$, $p<.05$. The main effect of spouse was qualified by a two-way interaction between wives' BDI scores and mood induction, $\beta = 0.05$, $t(134.78) = 2.29$, $p<.05$ and a three-way interaction between wives' BDI scores, spouse and mood induction, $\beta = 0.04$, $t(140.18) = 1.99$, $p<.05$. The two-way interaction is interpreted in light of the three-way interaction. To examine the three-way interaction, I conducted simple slopes analysis for wives. The interaction between wives' BDI scores and mood induction was significant for wives' indirect behaviours, $t(105.75) = 2.32$, $p<.05$. To further examine the significant two-way interaction between wife depressive symptoms and mood induction for wives' indirect demands, I examined the effect of wives' BDI scores on wives' levels of indirect demands with and without a mood induction. Results

showed that when wives received a sad mood induction, higher BDI scores were predictive of higher levels of indirect demands, $t(68.07) = 2.21$, $p<.05$. In contrast, when wives did not receive a mood induction, their BDI scores were not related to their use of indirect demands, $t(67.60) = -0.75$, *ns* (See Figure 2).

Table 4

Summary of Linear Mixed-Model Analysis with Indirect Demands as the Dependent Variable

Predictor	*df*	*Coefficient*	*SE*	*t*
BDI	77.86	0.03	0.03	1.29
Spouse	151.62	1.36	0.26	5.19*
Mood Induction	134.78	0.39	0.25	1.54
BDI x Spouse	151.62	0.02	0.02	1.03
BDI x Mood Induction	134.78	0.05	0.02	2.29*
Spouse x Mood Induction	140.18	0.36	0.25	1.40
BDI x Spouse x Mood Induction	140.18	0.04	0.02	1.99*

*$p<.05$.
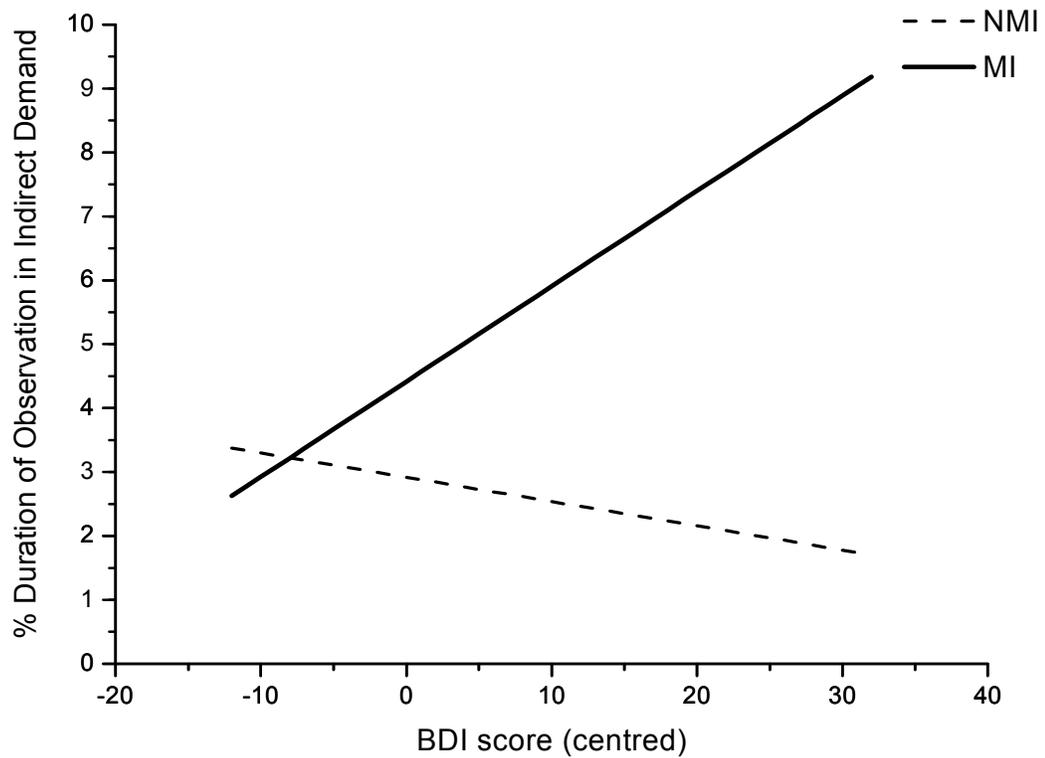
Figure 3. Relationship between wives' BDI scores and wives' level of indirect demand as a function of presence of mood induction (NMI = no mood induction; MI = mood induction).

Hypothesis 4: Positive Demands. (See Table 5). Analyses revealed a significant interaction between wives' BDI scores, spouse and mood induction, $t(154.21) = -2.31$, $p<.05$. To examine this interaction, simple slopes analysis was performed for wives. The interaction between wives' BDI scores and mood induction was not significant for wives' positive demands, $t(117.06) = -1.12$, *ns*.

Table 5

Summary of Linear Mixed-Model Analysis with Positive Demands as the Dependent Variable

Predictor	df	Coefficient	SE	t
BDI	72.37	0.05	0.03	1.68
Spouse	154.12	-0.25	0.32	-0.77
Mood Induction	155.17	0.11	0.32	0.33
BDI x Spouse	154.12	-0.04	0.03	-1.47
BDI x Mood Induction	155.17	0.03	0.03	1.05
Spouse x Mood Induction	154.21	-0.04	0.32	-0.12
BDI x Spouse x Mood Induction	154.21	-0.06	0.03	-2.31*

*p<.05.

Hypothesis 5: Sad Withdrawal. (See Table 6). Analyses revealed a significant main effect of spouse, $t(124.30) = 2.39$, $p<.05$, such that wives exhibited more sad withdrawal than husbands. Additionally, there was a marginally significant effect of wives' BDI scores, $t(95.91) = 1.93$, $p<.10$, such that couples with higher wife BDI scores exhibited greater sad withdrawal.

Table 6

Summary of Linear Mixed-Model Analysis with Sad Withdrawal as the Dependent Variable

Predictor	*df*	*Coefficient*	*SE*	*t*
BDI	95.91	0.05	0.02	1.93[†]
Spouse	124.30	0.68	0.28	2.39*
Mood Induction	114.97	-0.06	0.28	-0.23
BDI x Spouse	124.30	0.03	0.02	1.40
BDI x Mood Induction	114.97	0.01	0.02	0.49
Spouse x Mood Induction	116.192	0.08	0.28	0.29
BDI x Spouse x Mood Induction	116.19	0.01	0.02	0.47

*p<.05. † p<.10.

Hypothesis 6: Negative Withdrawal. There were no significant main effects or interaction effects for negative withdrawal (Table 7).

Table 7

Summary of Linear Mixed-Model Analysis with Negative Withdrawal as the Dependent Variable

Predictor	*df*	*Coefficient*	*SE*	*t*
BDI	68.0	0.02	0.02	1.11
Spouse	175.67	-0.25	0.19	-1.29
Mood Induction	168.27	0.05	0.19	0.24
BDI x Spouse	175.67	0.01	0.02	0.51
BDI x Mood Induction	168.27	-0.01	0.02	-0.56
Spouse x Mood Induction	172.80	-0.13	0.19	-0.70
BDI x Spouse x Mood Induction	172.80	0.02	0.02	0.92

Results for Objective 1 Exploratory Analyses

High-Level Negative Demands. To examine the three-way interaction between wives' BDI scores, spouse and mood induction, simple slopes analysis was conducted for husbands. The interaction between mood induction and wives' BDI scores was not significant for husbands, $t(112.04) = -.39$, *ns*.

Low Negative Demands. To examine the interaction between wives' BDI scores and spouse, simple slopes analysis was conducted for husbands. Wives' BDI scores were not predictive of husbands' use of low negative demands, $t(92.43) = -1.54$, *ns*.

Indirect Demands. To examine the three-way interaction between wives' BDI scores, spouse and mood induction, a simple slopes analysis was conducted for husbands. The interaction between wives' BDI scores and mood induction was not significant for husbands' indirect behaviours, $t(92.62) = 0.36$, *ns*.

Positive Demands. To examine the three-way interaction between wives' BDI scores, spouse and mood induction, simple slopes analysis was conducted for husbands. The interaction between wives' BDI scores and mood induction was significant for husbands' positive demands, $t(91.29) = 2.03$, $p<.05$. To interpret the two-way interaction for husbands, I examined the effect of wives' BDI scores on husbands' levels of positive demands with and without a mood induction. Results showed that higher wife BDI scores predicted higher levels of husbands' positive demands when wives were induced with a sad mood, $t(67.66) = 2.24$, $p<.05$. However, the relationship between wives' BDI scores and husbands' positive demands was not significant when wives did not receive a mood induction, $t(66.78) = -0.03$, *ns* (See Figure 4).
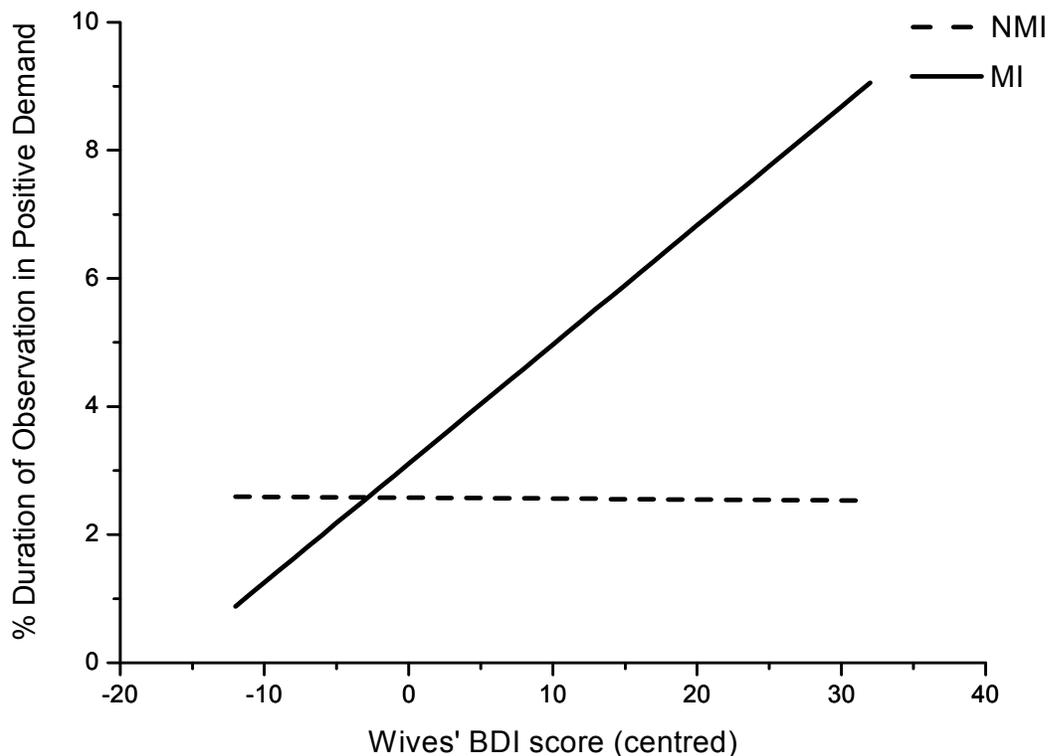

Figure 4. Relationship between wives' BDI scores and husbands' level of positive demand as a function of presence of mood induction (NMI = no mood induction, MI = mood induction).

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Overview of Analyses for Hypotheses 7-12[2]

To test hypotheses 7-12, linear regressions were conducted. Time 2 wife BDI score was the criterion variable in each model. Each model contained three predictors: time 1 wives' BDI score, time 1 marital satisfaction and one of 6 behavioural codes (high-level negative demands, low-level negative demands, indirect demands, positive demands, negative withdrawal and sad withdrawal). Average levels of each behavioural code were used, rather than performing separate analyses for behaviours exhibited in the discussion in which wives received a mood induction and when wives did not receive a mood induction[3]. Thus, the model tested can be represented as $Y' = \beta_1 X + \beta_2 Z + \beta_3 W$, where β_1 is the regression coefficient for the behavioural code of interest; β_2 for depressive symptoms at time 1; and β_3 is for marital satisfaction at time 1. Scores on behavioural codes were averaged across topics.

Results for Objective 2 Hypotheses 7-12

Analyses revealed that none of the behavioural codes predicted time 2 depressive symptoms, except for high-level negative demands (*hypothesis 7*), $\beta = -0.46$, $t(38) = -3.81$, $p<.05$, $R^2 = 0.51$, all other ps>.05. However, the relationship was not in the expected direction; wives who engaged in higher levels of high-level negative demands reported lower depressive symptoms at time 2.

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[2] I reanalyzed the longitudinal data with the difference in BDI scores from time 1 to time 2 as the criterion variable. Similar to the results presented here, the findings were significant for high-level negative demands. However, there were no trends observed in the analyses of cross-spouse effects.

[3] Average scores were used because it is more accurate as it represents on *average* how wives are behaving considering fluctuations in mood

Results for Objective 2 Exploratory Analyses

Analyses revealed that none of the cross-spouse effects were significant, all ps.>05. However, there was a marginally significant relationship between husbands' use of positive demands at time 1 and wives' depressive symptoms at time 2, after controlling for time 1 marital satisfaction and depressive symptoms, $\beta = 0.29$, $t(38) = 2.00$, $p<.10$, such that wives of husbands who engaged in higher levels of positive demands, reported higher levels of depressive symptoms.

Chapter 4: Discussion

The first purpose of this study was to use an experimental design to examine how wives' depressive symptoms were related to marital communication behaviours in the absence and presence of an experimentally-induced sad mood, after controlling for marital satisfaction. Specifically, I hypothesized that there would be an interaction between mood induction and depressive symptoms such that, after a sad mood induction, wives who endorsed higher levels of depressive symptoms would be more likely to influence their partners using both high- and low-level negative demands and indirect demands than wives who endorsed lower levels of depressive symptoms. In contrast, I predicted that wives who reported higher levels of depressive symptoms would be less likely to influence their partners using positive demands than wives who endorsed lower levels of depressive symptoms. I predicted that there would be no association between wives' depressive symptoms and different types of demanding behaviours in the absence of a mood induction. For withdrawing behaviours, I similarly predicted that there would be an interaction between mood induction and depressive symptoms such that, after a sad mood induction, wives who reported higher levels of depressive symptoms would be more likely to withdraw from a discussion with negative (i.e., angry, frustrated) or sad affect. However, in the absence of a mood induction, I predicted that wives' depressive symptoms would not be associated with the different types of withdrawal behaviour. Exploratory analyses were also conducted to examine the existence of cross-spouse effects (i.e., whether wives' depressive symptoms were related to the types of demands and withdrawals in which husbands engaged).

The hypotheses were partially supported. As predicted, when wives were experiencing a lower mood, wives with higher levels of depressive symptoms were more likely to engage in both high-level negative demands and indirect demands, as compared to wives who endorsed lower levels of depressive symptoms. By demonstrating that wives with higher levels of depressive symptoms only engaged in such demands during a lower mood state, these findings provide experimental evidence of depression-specific marital communication behaviours. It is likely that depressive cognitions were more accessible in a negative mood state and therefore may have impacted the marital communication behaviours of depressed wives. The findings also suggest that it is possible that many past studies have failed to find depression-specific effects on marital communication behaviours because, as previously speculated, the depressed group of prior studies may have been characterized by a wide range of mood states, thus minimizing depressed-nondepressed differences in mood states. These results also highlight the importance of using MIPs in the examination of depression-relevant communication behaviours. As previously mentioned, it is likely that participants present in such studies when they are in a somewhat elevated mood. MIPs allow researchers to address this concern using a rigorous experimental paradigm and observe communication behaviours that may only manifest during an acute negative mood. These results also underscore the importance of differentiating between different types of demands. It appears that depressed and non-depressed wives are only differentiated by negative, but not positive demands.

Interestingly, in comparison to wives who reported lower levels of depressive symptoms, wives who reported higher levels of depressive symptoms were more likely to engage in low negative demands regardless of whether or not they were induced with a

sad mood. This suggests that wives' attempts to influence their partners using demands indicating annoyance, frustration and defensiveness are not mood-dependent. And the relationship between depressive symptoms and low negative demands is unique. It is possible that such attempts to influence one's partner are more easily activated than high-level negative attempts (i.e., the threshold for "activation" of low-level negative demands is lower than other types of negative demands).

Contrary to prediction, wives' depressive symptoms did not predict their use of negative or sad withdrawals when they were induced with a sad mood. This suggests that depression may be more specifically related to the quality of engagement, rather than disengagement from a marital problem-solving discussion. However, I am concerned that efforts to code withdrawal in a reliable manner may have compromised the validity of the construct. In the present study, any disengagement from the spouse (e.g., looking away, shifting away) that were accompanied by angry affect were coded as angry withdrawal and all such behaviours accompanied by sad affect were coded as sad withdrawal. Although this operationalization of withdrawal is not without precedence (e.g., Christensen & Heavey, 1990), it may have been overly inclusive. It should be noted, however, that there are limitations in the way one can capture withdrawing behaviour in the laboratory setting. The range of possible behaviours is limited; for example, individuals who usually withdraw at home by leaving the room are not likely to do so in the laboratory setting unless the discussion becomes intolerably frustrating. In the current study, such behaviour was not observed in any couple. In future research, it will be important to re-examine the role of withdrawal in the marital interactions of depressed individuals by modifying the operationalization of withdrawing behaviours. For example,

it may be useful to only code withdrawal if the duration exceeds a predetermined number of seconds.

One of the most interesting findings of the present study is the evidence for cross-spouse effects of depressed wives' mood induction; the results showed that husbands of wives who endorsed higher levels of depressive symptoms were more likely to engage in positive demands after their wives received a sad mood induction, but not in the absence of a mood induction. The husbands in the current study did not receive a mood induction and were not aware that their wives had received any kind of mood induction. Thus, the husbands of depressed wives seemed to be responding "automatically" to their wives' sad affect and adjusted their own behaviour accordingly. This finding is consistent with one of the central premises of interpersonal perspectives on depression which suggests that it is vital to also examine the behaviours and responses of others in the social environment of a depressed individual. In the current study, I did not conduct sequential analyses and thus cannot definitely state whether husbands' positive demands were preceded by sad emotional displays by their wives. In the future, it would be useful to re-code these interactions using an affect based coding system, such as Gottman's *Specific Affect Coding System* (SPAFF; Gottman & Krokoff, 1989). Using this coding system, I could examine whether the "emotional linkage" between husband and wife behaviour is more likely to be present after the wife has received a sad mood induction, as compared to when there is no mood induction.

The second purpose of the current study was to investigate the role of marital communication behaviours in depression chronicity and maintenance using a longitudinal design. I hypothesized that higher levels of high negative demand, low negative demand, indirect demand, sad withdrawal and negative withdrawal would be associated with

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higher subsequent depressive symptomatology in wives. Exploratory analyses were also conducted to determine whether there were any cross-spouse effects (i.e., if husbands' behaviours would predict wives' subsequent depressive symptoms).

None of the hypotheses were supported, and these null findings were possibly due to the reduced sample size at time 2. However, I unexpectedly found that, after controlling for marital satisfaction and depressive symptoms at time 1, higher levels of wife high-level negative demands predicted lower levels of wife depressive symptomatology at time 2. Additionally, there was a marginally significant relationship between husbands' use of positive demands and wives' subsequent reports of depressive symptoms; after controlling for initial levels of marital satisfaction and depressive symptoms, wives of husbands who engaged in higher levels of positive demands at time 1 reported higher levels of depressive symptoms at time 2. Although data collection is not yet completed, these preliminary findings emphasize the importance of longitudinal research; although high-negative demands were positively correlated to depressive symptoms cross-sectionally, the longitudinal association was in the opposite direction. Previous research has revealed similar findings; Cohan and Bradbury (1997) found that wives with higher anger and more negative life events predicted decreases or smaller increases in self-reported depressive symptoms and increases or smaller decreases in marital satisfaction. Perhaps engagement with their spouses, albeit negative, may serve as a protective factor, since wives are not engaging in emotional avoidance.

Although results were only marginally significant, it was interesting that, longitudinally, husbands' positive communication behaviours remained positively correlated to wives' depression. We can speculate on possible reasons for this finding. It is possible that the use of positive demands may reinforce depressive behaviours, and thus

maintain depressive symptoms. Or perhaps, borrowing from the social support literature, supportive equity may account for these results. Supportive equity is described as equity in received and provided support, and has been demonstrated to be associated with decreases in negative mood and increases in positive mood (Gleason, Iida, Bolger, & Shrout, 2003). This line of research has found that received support is often associated with negative effects in the recipient (Barrera, Sandler, & Ramsay, 1981; Bolger, Zuckerman, & Kessler, 2000), and a number of explanations have been offered for this counterintuitive result. It has been suggested that received support may be an indication to the recipient that they are incompetent and dependent on the support provider (Bolger et al., 2000; Fisher, Nadler, & Whitcher-Alagna, 1982), which may then lead to increased stress. In relation to this, the negative effects of received support appear to be countered by giving support (Gleason, Iida, Bolger, & Shrout); it is speculated that giving support increases the provider's self-esteem or self-efficacy and when support is reciprocated, it gives the individual a sense of balance within the relationship. Therefore, borrowing from these results, it is possible that the high responsiveness of husbands to their wives' emotional state may increase wife dependency on her spouse, thus contributing to her depressive illness, because wives are unable to reciprocate support. These potential mechanisms need to be further investigated in future work so that we can better understand this counterintuitive finding. Another possibility may be that husbands of wives with higher depressive symptoms may have learned to ask their partners for change in the most palatable way possible when their wives are in a negative mood. The longitudinal results must be interpreted with caution given that multiple analyses may have led to an increased type I error rate.

Results from the current study may be used to inform current interpersonal theories of depression. According to Coyne's (1976) interactional theory of depression, depressed individuals behave in ways which actively and negatively shape their interpersonal environments which then results in interpersonal rejection. Perhaps the mechanism by which interpersonal rejection is experienced by depressed individuals is the use of high- and low-level negative demands and indirect demands. These types of demands may be aversive to interaction partners and thus may cause them to reject the depressed individual. The use of high- and low-level negative demands and indirect demands may also be mechanisms of stress generation as per Hammen's (1990) stress generation theory of depression. The use of such demands may lead couples to be further polarized; wives' desire for change in her spouse increases, while husbands' resistance to change also increases. This polarization may be considered as a stressor given that wives' persistent demands are not met by their husbands.

Clinical practice may also be informed by the results of the current study. The data suggest that negative and indirect demands may serve as targets of intervention. Through treatment, depressed partners could acquire skills that would enable them to use less negative demands and engage in more functional communication behaviours. It may also be important to involve spouses of depressed individuals in the treatment process as their behaviours may also be influenced by their partner's depressive symptoms. Preliminary results from the current study suggest that the use of positive demands may be a point of intervention for spouses of depressed partners. However, it remains unclear whether or not positive demands reinforce depressive behaviours in depressed partners.

Limitations and Future Directions

Certainly, one limitation of the current study was that I did not examine possible mechanisms that would account for the observed findings. We must gain a further understanding of the various processes and variables involved in the relationship between communication behaviours and depression before this line of research can be used to inform clinical practice. A possible area of interest is spousal characteristics (i.e., characteristics of spouses of depressed individuals). Some spousal characteristics may buffer the effects of negative communication behaviours related to depression and some may contribute towards dysfunctional communication patterns. For instance, spousal dependency may account for the relationship between dysfunctional communication and depression. A recent study has found that depressed wives are more likely to engage in negative feedback-seeking (NFS) when their husbands report lower levels of dependence (Rehman, Boucher, Duong, & George, under review). The authors hypothesized that depressed individuals experience lower self-efficacy and/or self-esteem when they do not feel needed by their spouses, and thus engage in higher levels of NFS. It is likely that spousal dependency may also be applicable in demand-withdraw behaviours of couples with a depressed partner. For example, spouses who are highly dependent on their depressed partner may comply with every whim expressed by their partner, regardless of their use of negative or positive demands, and thus improving their partners' depressive symptoms by, for example, increasing their partners' marital satisfaction.

Most studies, present study included, have made consistent efforts to account for levels of marital satisfaction when examining the relationship between depression and communication. However, future research should also examine other variables that may be implicated in the relationship between marital communication and depression. First,

psychopathology in both partners should be considered. For instance, if both partners within a couple are depressed, their marital interactions may be more dysfunctional in comparison to couples in which only one partner is depressed. Second, relationship duration may affect the relationship between depression and marital communication behaviours, such that couples who are in more established relationships may not be as affected by dysfunctional communication behaviours as those in less established relationships. Lastly, given that depression is highly comorbid with anxiety, it would be of interest to determine whether anxiety would account for some of the variance in communication behaviours observed in depressed individuals. However, controlling for levels of anxiety symptoms may render depression an artificial construct given that pure cases of depression rarely occur in vivo.In addition to examining possible mediating and moderating variables, increasingly, interpersonal theorists are calling for the integration of both intrapersonal and interpersonal variables in models of depression (Hammen, 1999). Therefore, in the future, researchers must also include cognitive (e.g., attribution style) and personality variables (e.g., neuroticism, sociotropy, autonomy) in order to have a fully integrated model of depression; most observational studies of depressed couples have not included such variables (for exception see Bradbury, Beach, Fincham, & Nelson, 1996). Personality variables influence interpersonal behaviours; for instance, women high in autonomy exhibit more hostile and less loving behaviours when interacting with their boyfriends (Mongrain, Vettesse, Shuster, & Kendal, 1998; Zuroff & Duncan, 1999). Personality variables may also affect depression by increasing sensitivity to certain stressful events; for example, depressed individuals high on sociotropy are highly dependent on their interpersonal relationships and thus are more affected by failures in the relationship domain (e.g., Hammen, Ellicott, Gitlin, & Jamison, 1989). Such failures

may include the inability to resolve a relationship conflict. The inclusion of such variables would allow researchers to identify mechanisms by which depression is maintained and/or exacerbated, as well as possible protective factors.

Furthermore, future studies should also examine factors related to outcomes experienced by spouses of depressed partners to stay true to the tenets of interpersonal perspectives of depression. Variables such as attribution style may help to reduce or exacerbate the effects of negative communication behaviours on the marital relationship. Spouses who attribute their depressed partners' negative behaviour to unstable, external causes (e.g., going through a difficult time in their life) are more likely to excuse such behaviours and thus the relationship remains unaffected. However, spouses who attribute their depressed partners' negative behaviour to stable, internal causes (e.g., their partners are insensitive and selfish) would not condone such behaviour and may lead to marital discord, and may in turn lead to the experience of depressive symptoms by the non-depressed spouse.

Lastly, an investigation of marital communication in various contexts would allow for a greater understanding of the relationship between depression and communication. In the past, studies of marital communication of depressed couples have primarily focused on conflict-resolution tasks and have neglected the use of more positive discussions such as social support discussions. Pasch and Bradbury (1998) found that the frequency of spouses' supportive behaviours was positively related to their longitudinal increases in marital satisfaction. Given the high comorbidity of marital satisfaction and depression, it is likely that the use of supportive behaviours could also be related to depressive symptoms. Additionally, it would allow researchers to examine whether depression interacts with communication context (i.e., problem-solving discussion versus social

support discussion). Such a study would clarify whether depressed individuals engage in lower levels of positive behaviours than those who are not depressed even in a context ideal for positive communication.

Conclusion

Overall, the present study underlines the importance of studying marital communication in the marital context of depression and in general, the study of interpersonal perspectives of depression. First, the current study provides evidence in support of depression-specific communication behaviours. Second, preliminary longitudinal data suggest that communication behaviours may play a role in the chronicity and maintenance of depression. In relation to this, the longitudinal data also support the notion that the relationship between depression and social interactions (i.e., communication behaviour) vary over time. For instance, while high negative demands were positively correlated to depression cross-sectionally, high negative demands were negatively correlated to depression longitudinally. Furthermore, evidence from the current study reinforces the idea that depression is an interpersonal problem; not only does depression influence behaviours of depressed individuals, but also the behaviours of their spouses. Researchers must continue with this line of research to determine the function of behaviours observed in marital interactions of couples with a depressed partner and as well as to investigate possible mechanisms which explain observed differences between couples with and without a depressed partner. This line of research will have great implications for treatment, especially marital therapies designed to treat depression.

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Appendix A: DCQ

Please indicate on the 7-point scale how much you want your partner to change each of the following behaviors.

<-(1)---(4)--(7)->
No Change   **Somewhat More**   **Much More**

(do not want my   (want
my partner to partner to
change in   do this
more) this area)

	No Change (1)			Somewhat More (4)			Much More (7)
1. Get together with my friends.	1	2	3	4	5	6	7
2. Start interesting conversations with me.	1	2	3	4	5	6	7
3. Go out with me.	1	2	3	4	5	6	7
4. Show appreciation for things I do well.	1	2	3	4	5	6	7
5. Get together with my relatives.	1	2	3	4	5	6	7
6. Be more affectionate with me.	1	2	3	4	5	6	7

		No Change (1)		Somewhat More (4)			Much More (7)	
7.	Get together with our friends.	1	2	3	4	5	6	7
8.	Treat my relatives with greater respect.	1	2	3	4	5	6	7
9.	Give me attention when I need it.	1	2	3	4	5	6	7
10.	Leave me time to myself.	1	2	3	4	5	6	7
11.	Agree to do things I like when we go out together.	1	2	3	4	5	6	7
12.	Assume responsibility for finances.	1	2	3	4	5	6	7
13.	Accept praise.	1	2	3	4	5	6	7
14.	Accomplish responsibilities promptly.	1	2	3	4	5	6	7
15.	Express his/her emotions clearly.	1	2	3	4	5	6	7
16.	Spend time with me not other men/women.	1	2	3	4	5	6	7
17.	Spend time with me.	1	2	3	4	5	6	7
18.	Participate in decisions about spending money.	1	2	3	4	5	6	7
19.	Pay attention to his/her appearance.	1	2	3	4	5	6	7
20.	Spend time in outside activities.	1	2	3	4	5	6	7

Please write in and rate at least two more changes that you would like in your partner's behavior.

	No Change (1)			Somewhat More (4)			Much More (7)
21. _____	1	2	3	4	5	6	7
22. _____	1	2	3	4	5	6	7
23. _____	1	2	3	4	5	6	7
24. _____	1	2	3	4	5	6	7
25. _____	1	2	3	4	5	6	7

Now, please go back and pick the three most important areas where you would like your partner to change. **Pick only the areas that are most important to you from the topics listed or written above.** Please do not make up new areas to list below. Please list these three choices below, in order of importance (i.e. #1 would be the area you want your partner to change the most in).

1.

2.

3.

Assessor Notes:

HT: _____ # of ranking _____

WT: _____ # of ranking _____

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Appendix B: VAS

Couple #: _____
Husband or Wife: _____
Music-Condition: _____
Topic-Condition PS: _____
Topic-Condition SS: _____
Date: _____
Assessor: _____

Instructions. One end of this line is marked as "Extremely Happy" and the other end is marked as "Extremely Sad." The middle point indicates neither happiness nor sadness.

I would like you to tell me how you are feeling right now by drawing a vertical line somewhere along this line. If you are feeling neither sad nor happy, simply draw a line through the middle.

◆——◆——◆——◆——◆——◆——◆——◆——◆——◆

Extremely
Happy

Neutral
- Neither
Happy
nor Sad

Extremely
Sad
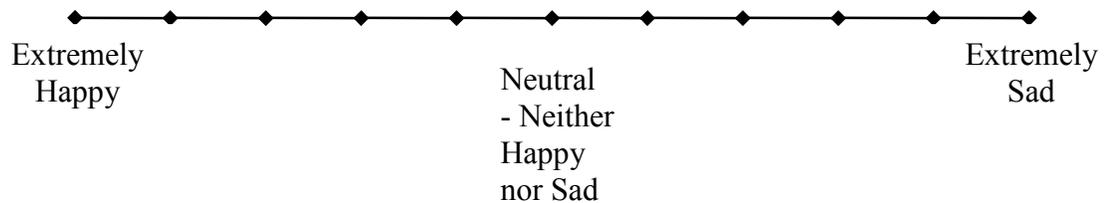
Appendix C: Demand-Withdraw Coding System Manual

(Adapted from Global Power Coding System, J. Jones & A. Christensen, 1998 and Christopher L. Heavey, Debra Gill, & Andrew Christensen, 1998)

The focus of this system is on measuring how individuals attempt to influence each other's behaviour and/or opinions and withdrawal behaviours exhibited in response to these attempts.

Pressures for Change

Attempts to influence someone's behaviour can be explicit ("You need to stop smoking so much") or implicit ("You smoke too much", "The kids shouldn't see you smoking all the time", "I hate it when you do that"). This system measures attempts to influence any behaviour/opinions, whether it is behaviour related to the problem they are discussing or whether it is behaviour related to the discussion itself (e.g., alter the course of the conversation). These attempts to influence the partner's behaviour encompass multiple facets of behaviour, including verbal content, voice tone, and body language. All of these elements will be taken into account when coding an interaction. When the content of a message and non-verbal cues conflict, non-verbal cues will take precedence in determining affect.

> Additionally, the following are coded as pressures for change:
> - Non-verbal pressures such as hand gestures and facial expressions that are accompanied by a statement
> - Rhetorical questions
> - Information-seeking questions with an **implied** pressure (NOTE: please take note of tone)
> - Answers to information-seeking questions with an **implied** pressure

Genuine questions (e.g., "How was your day today?") are not pressures

1. High-level Negative Attempts to Change Partner's Behaviour: All pressures for change and attempts to control the partner that are stated in a *domineering, belligerent, contemptuous (NOTE: paraphrasing is not contemptuous), hostile, disgusted, highly frustrated* or *angry* tone of voice should are coded under this category. To be coded in this category, the pressures <u>must be negative</u>. This code will frequently involve a negative voice tone and negative content, although some neutral content may fall into this category if the voice tone is highly negative. *Similarly, if someone says something really nasty in a neutral tone, the comment would still fall into this category*. (Hint: If an individual is being extremely domineering, chances are the almost everything he/she says can fall into this category, even if they are laughing).

Also note that the pressure can be implicit as well as explicit. In other words, it need not be as explicit as "I want you to play with our son." It must, however, carry in it an implicit *should* statement, which clearly indicates what the partner "should" be doing.

Examples of this include "You never play with our son," and "If you spent more time at home, our child would probably not act out as much at school." These statements both carry implicit "shoulds" that the parent should carry out his/her parental duties by spending more time with the child. Character assassinations also belong in this category (e.g., "you're a jackass").

Additional Examples:
- "You don't need to worry about my kids, they are *my* kids and none of your business" (domineering tone);
- "Fucking hell you don't have to be right all the time!" (Angry high-pitched, loud tone);
- "Sometimes you just piss me off"

3. Low Level Negative Attempts to Change Partner's Behaviour: This code measures behaviour that is designed to influence or control the partner through the use of tactics that are negative (although less strongly negative than the previous category) and often more subtle such as annoyance, frustration, defensiveness. For defensiveness, if the purpose of the message is to get the other person to back off, then it is a pressure for change. For example, "Well, what about *your* cleaning habits?" (said in a defensive tone, and it is cross-complaining).

Examples:
- "I'm just tired of you not taking responsibility" (frustrated tone)
- "Don't you think I know that!" (defensive tone)

4. Indirect attempt to Change Partner's Behaviour: This code also measures behaviour that is designed to influence or control the partner through the use of tactics that are somewhat indirect and often more subtle such as flirting, whining, nagging and pleading. Attempts to manipulate the partner by inducing guilt also often fall into this category, assuming they are done with a somewhat negative voice tone. Occasionally, a statement may have strong characteristics of 3 and 4. In these cases, 4 will take precedence.

Examples:
- (Making a sad puppy dog face) Wife says, "Well, next time you get mad, will you please let me know instead of just leaving?"
- "Don't yell at me" (whiny, babyish tone)
- "What happens if I get into an accident the day after we have a fight–how would you feel if we hadn't made up?" (somewhat negative tone, manipulative)
- "Well, I'd be much nicer to you if you would cook for us once in a while" (said in a coy manner)
- "Why can't you just tell me when you're frustrated?" (in a whiny tone—please note that although it may appear that the individual is seeking an explanation, when phrased in a whiny tone it implies that the individual wants their partner to tell them when they are frustrated)

5. *Neutral Attempts to Change Partner's Behaviour:* Any request for change that does not fall into one of the negative categories or the positive category goes here and is usually said in a matter-of-fact tone of voice. Please note that when the pressure is stated with laughter, it is still considered in this category. When participants directly disagree with statements/opinions of their partners (e.g., No, I don't) they are trying to change the partner's opinion and will be coded in neutral pressure if the statement is in a neutral tone. Excuses and justifications are also considered neutral pressures as long as affect is also neutral. Please also note that when a question is posed in a neutral tone, is information-seeking, and has an implicit pressure, it is also included in this category.

Expressing agreement or understanding with what the partner is saying in a neutral tone of voice is not a pressure, e.g., "I know" or "I see that."

Examples:

- "There should be times when we see all of the kids together" (calm tone);
- "You need to balance the checkbook every other week"(direct, but calm tone, not demanding);
- "If I ask for alone time, you give me grief" (calm tone)
- "I never experience praise for things I do well" (calm tone)
- "Um, I think we're getting off topic" (calm, matter of fact tone)
- "I understand. We've discussed that before" (calm tone)
- "So are you going to accept praise now?" (neutral tone)
- "Tell me more" (neutral tone)

6. *Positive Attempts to Change Partner's Behaviour:* This code measures behaviour that is designed to influence or change the partner's behaviour through the use of warmth, humor, understanding, validation, and collaboration (e.g., "we" talk). Behaviour that shows that the partner requesting for change is also taking responsibility will also be included in this category. The voice tone for this code will be soft and warm and the content will indicate concern, understanding, and kindness.   Body language may include smiling, leaning forward, positive physical contact (e.g., hand on leg, kiss). Softening always falls under Positive Attempts. Softening occurs when a partner attempts to phrase his/her request for change in the kindest, most palatable way possible. Encouraging statements (e.g., "Keep it up. You're doing a good job.") are also included in this category. Lastly, **only** compliments that are used to convince the partner of a positive attribute are included in this category.

Examples:

- If the wife wants the husband to clean up around the house more, she might say, "Honey, I know I'm not the neatest person either, but I've found it helps to just pick up a little bit each day" (she makes herself the focus of the request even

though it is *his* behaviour she wants to change)

- "Don't judge yourself by the standards of others because you are pretty wonderful" (sweet content, neutral tone)
- "I know that you're busy with work, and by the time you come home all you want to do is relax, but it would really help me out if you could clean up around the house once in a while"
- After husband says "I don't think I've been very good at keeping the house clean", the wife responds with "I think you've improved a lot since we moved in together"

Note: Humor falls into this category if it is genuine and if it is used in the context of a serious request for change. If the husband says, "Why don't you just ignore the children until they are 18?", he isn't seriously asking her to do this, thus we wouldn't code it. If the husband is using humor to be mean, "Maybe if we had a conversation where you actually *talked* (laughs), we wouldn't have all these misunderstandings" (sarcastic tone), then this would be coded in one of the negative categories.

Withdrawal

In general, withdrawing behaviour suggests that the individual is emotionally and/or psychologically withdrawn from the discussion. Generally speaking, how much does the person seem to be withdrawn from their partner and the discussion.   For the purposes of the current study and to be as objective as possible, withdrawal will be coded when the individual is looking away from their partner without speaking, laughing or nodding. In cases when you cannot see the gaze of the partner, withdrawal will only be coded when they are not looking in the direction of their partner.
If the individual is looking away at something that the couple is talking about, then it is NOT considered withdrawal. Also note that blinking is NOT withdrawal, but "shifty eyes" (i.e., looking around the room and their partner repeatedly for brief moments) is considered withdrawal. If you have started to count out to neutral, the preceding affect does not determine the type of withdrawal.

7. Sad/Giving-up Withdrawal: Withdrawing behaviour will be coded under this category if it is accompanied by sad affect. Examples: (a) target spouse is looking away while crying; (b) target spouse says, with sad affect, "I just don't know what to do about this anymore" and then looks away/retreats from the conversation.

8. Negative Withdrawal: Withdrawing behaviour will be coded in this category if it is accompanied by angry affect or immediately follows an angry verbal or nonverbal. Examples: (a) target spouse sits with arms crossed in a defiant manner; (b) target spouse says, angrily, "I am just sick of having this argument again and again" and then looks away from partner.

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9. Neutral Withdrawal: Withdrawing behaviour will be coded in this category if it is not accompanied by any kind of negative affect.

Other

0. Neutral: Communication that is neither an attempt to change a partner's behaviour nor withdrawal from the conversation. For example, open-ended and information-seeking questions are neutral as long as they do not carry any implicit pressures.

Examples:

- "Like what for example?" (neutral tone)
- "What do you mean?" (neutral tone)

/. Uncodable: Any time an assessor enters the room both participants are immediately coded uncodable. When a participant's face is completely out of the range of the camera (usually when they lean towards the middle or side of the screen) they become uncodable – even if you can still hear what they are saying. However, if the participant becomes out of range while in mid-sentence and returns, they should **NOT** be put in uncodable. Please also note that you do not have to count to take a person in or out of uncodable.

Coding in Noldus:

People can start in codes other than neutral, but codes must be a pressure. To put someone in withdrawal near the beginning of the interaction, the other partner must have already spoken.

Time Rules:
- When you need to put a participant in neutral, you must count to 3 seconds when the other code ends
- To switch between pressures or withdrawal codes, you do not need to wait 3 seconds.