1989

Communication In Marital Dyads: Implications For Interactional Approaches To Depression

Debra Lynn Kowalik

NOTICE

The quality of this microform is heavily dependent upon the quality of the original thesis submitted for microfilming. Every effort has been made to ensure the highest quality of reproduction possible.

If pages are missing, contact the university which granted the degree.

Some pages may have indistinct print especially if the original pages were typed with a poor typewriter ribbon or if the university sent us an inferior photocopy.

Reproduction in full or in part of this microform is governed by the Canadian Copyright Act, R.S.C. 1970, c. C-30, and subsequent amendments.

AVIS

La qualité de cette microforme dépend grandement de la qualité de la thèse soumise au microfilmage. Nous avons tout fait pour assurer une qualité supérieure de reproduction.

S'il manque des pages, veuillez communiquer avec l'université qui a conféré le grade.

La qualité d'impression de certaines pages peut laisser à désirer, surtout si les pages originales ont été dactylographiées à l'aide d'un ruban usé ou si l'université nous a fait parvenir une photocopie de qualité inférieure.

La reproduction, même partielle, de cette microforme est soumise à la Loi canadienne sur le droit d'auteur, SRC 1970, c. C-30, et ses amendements subséquents.

COMMUNICATION IN MARITAL DYADS: IMPLICATIONS FOR INTERACTIONAL APPROACHES TO DEPRESSION

by

Debra Lynn Kowalik

Department of Psychology

Submitted in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy

Faculty of Graduate Studies
The University of Western Ontario
London, Ontario
1989

ISBN 0-315-49316-X

Abstract

The present investigation examined the nature of the relationships among marital interaction, marital distress and depression. Forty-six couples served as subjects, comprising the following five groups: ten maritally distressed, depressed psychiatric out-patients and their spouses, seven maritally distressed and seven maritally nondistressed, nondepressed psychiatric out-patients and their spouses, and 22 nondepressed, nonpsychiatric couples from the community ten of whom were maritally distressed and twelve maritally nondistressed. The behavior of both spouses was assessed, using both self-report and behavioral measures of marital communication, gathered from multiple perspectives (self, spouse, observer). Measures were taken once early in treatment and again, two months later. Stability, consistency across raters and specificity of observed effects were assessed.

The results showed good stability over time. The only significant changes were a decrease in the depression scores of the depressed patients and a shift in the speakers' nonverbal behavior during the high-conflict task. All subjects and spouses also became nonverbally less positive and more neutral over time.

The results examining consistency across raters depended on the coder's perspective. Generally, the subjects' coding was the most positive, the spouses were less positive, and the coding of the independent observers was the most negative. Although participants in all of the groups showed accurate recall of their coding, both the participants and their spouses in all groups were

found to overestimate matches between intent and impact of messages (concordance). These results are discussed with respect to both realism and negative distortion hypotheses, with neither receiving unequivocal support.

Finally, with respect to specificity, different types of pathology were found to be related to particular communication deficits. Although there were no purely depression-specific findings, depressed couples showed lower spouse concordance than did nonpsychiatric couples. Marital distress was characterized by disruptions in areas of love and cooperation and lower overall quality of interaction. Any pathology was associated with deficits in positive nonverbal behavior, lower congruence of content and affect for positive content messages, disruptions in power, dominance and trust areas, self-reports of poorer communicative ability, and problems in areas of involvement with the spouse; the latter two variables seem to be further disrupted if both marital distress and psychopathology were present.

Overall, the findings relating to stability and specificity challenge interactional models of depression and studies of marital interaction of depressives that claim depression-specific disturbances. Rather, a more reciprocal model was proposed to describe the relationship between depression and marital distress, in which communication problems may be more symptomatic of the marital distress. Treatment implications, in light of this model, were discussed. In particular, marital therapy for couples with a depressed spouse deserves further attention.

ACKNOWLEDGEMENTS

In many ways, this was the most difficult part of the thesis to write. This doctoral thesis represented a major academic and emotional undertaking which was clearly not an individual endeavor. I'd like to express my thanks to those who provided academic input: my advisory commitee of Mike Atkinson and Nick Kuiper, who helped to transform an unwieldy proposal into a well-designed, manageable study and near its completion offered well-thought through suggestions and criticism; my departmental examiners, Greg Moran and Dave Pederson, who both claimed ignorance of the thesis content, but nonetheless asked insightful questions and persevered through the process of two defences; and my external examiners, John Holmes and Dr. Ted Waring, who showed great interest and enthusiasm in the content. A special thank you for Bob Gardner, who not only took the time to explain statistics, but also the time to convince me that I knew what he was talking about.

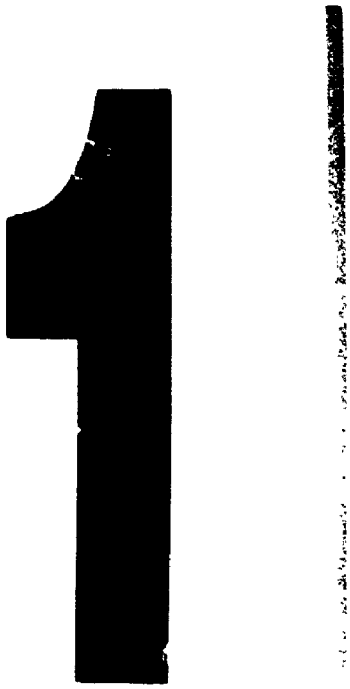
I would also like to thank the staffs of Family Services, London Psychiatric Hospital and St. Joseph's Hospital Outpatient Psychiatric services, for their assistance in recruiting couples for this study. My gratitude also for those couples who so kindly allowed us to examine their marriages, without whose participation, this study would not have been possible.

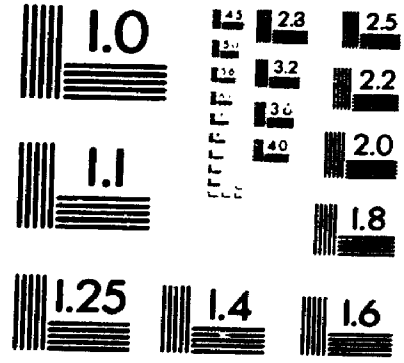
I would also like to thank those many people along the way who made the process easier and more pleasant: Bonnie and Owen, who made me feel welcome in their home, and sympathized with my pre-oral anxiety and celebrated my post-oral success; and all those working with and for Ian, especially Elaine, eager to help with any

request, and Peter and Cathy, who were always there to lend an ear or a shoulder.

My deepest appreciation goes to my advisor, Ian, for his unflagging support and confidence in me. The priority he placed on my research helped to provide me with the motivation to continue and to value my own work. He has taught me an appreciation for well-done research and although he provided a productive and successful academic role model, he respected my personal values and my happiness was placed above his need for generativity.

Finally, my love and thanks to Bob, for his practical and emotional support and for sharing Amy and Catherine with me. Of course, my love and thanks to my little girls, for providing me with the opportunity to be both a mother and a professional, and for putting the accomplishment into perspective.




1.0
1.1
1.25
1.4
1.6
1.8
2.0
2.2
2.5
2.8
3.2
3.6
4.0

LIST OF TABLES

NOTICE

The quality of this microform is heavily dependent upon the quality of the original thesis submitted for microfilming. Every effort has been made to ensure the highest quality of reproduction possible.

If pages are missing, contact the university which granted the degree.

Some pages may have indistinct print especially if the original pages were typed with a poor typewriter ribbon or if the university sent us an inferior photocopy.

Reproduction in full or in part of this microform is governed by the Canadian Copyright Act, R.S.C. 1970, c. C-30, and subsequent amendments.

AVIS

La qualité de cette microforme dépend grandement de la qualité de la thèse soumise au microfilmage. Nous avons tout fait pour assurer une qualité supérieure de reproduction.

S'il manque des pages, veuillez communiquer avec l'université qui a conféré le grade.

La qualité d'impression de certaines pages peut laisser à désirer, surtout si les pages originales ont été dactylographiées à l'aide d'un ruban usé ou si l'université nous a fait parvenir une photocopie de qualité inférieure.

La reproduction, même partielle, de cette microforme est soumise à la Loi canadienne sur le droit d'auteur, SRC 1970, c. C-30, et ses amendements subséquents.

LIST OF APPENDICES

Communication in Marital Dyads:

Implications for Interactional Approaches to Depression

With steadily increasing divorce rates and increasing demands for effective marital therapy, investigations of marital communication and interaction have proliferated over the past 15 years. The relationship between communication and marital distress is undoubtedly a complex one. In the literature review that follows, it will become apparent that disturbed communication has been conceptualized as both a cause and symptom of marital distress. For example, faulty communication has been identified as one of the major causes of breakdown in marriages that were seen as otherwise workable (Lederer & Jackson, 1968). Common sense holds that if couples communicate well, their marriages will be happy and lasting. It is assumed that the style of communication reflects the nature and duration of relationships, and that marriage imposes new demands on the abilities of couples to communicate. Problem-solving and conflict-resolution skills must be developed and/or refined in order to maintain a happy marriage (Narvan, 1967).

Therapists agree that communication is an essential component of marital therapy and, more important, that it is a skill that can be learned (Gurman & Kniskern, 1981). In attempting to identify those specific communication skills that are characteristic of happy marriages, a number of investigators have examined communication styles exclusively in nondistressed marriages (e.g., Ryder, 1968). More typically, however, the design of marital communication studies involves a comparison of distressed and

nondistressed couples.

Independent of the marital distress research, there has been a parallel growth in studies investigating interpersonal aspects of depression. These studies have involved an examination of the differences in marital interactions between couples in which one spouse is clinically depressed and couples without a depressed spouse. Both the theoretical approaches and the findings of these studies are remarkably similar to those found in studies of distressed versus nondistressed marriages. Indeed, many of these studies have found marital distress and depression to be highly related (e.g., Coleman & Miller, 1975; Crowther, 1985). As is the case in the studies of marital distress, communication problems have been conceptualized as both symptoms and precursors of depression. Given that depression and marital distress are often confounded in studies of depression, it is uncertain whether these studies are actually investigating characteristics of depression per se, or whether they simply represent an extension of the marital distress interaction literature. The aim of the present study was to investigate, using a longitudinal design, the nature of the relationship between marital distress and depression. In particular, the specificity of marital communication problems to depression or to marital distress was examined, and the stability of the obtained deficits was explored. In addition, the use of multiple measures of communication, including self, partner, and observer ratings, permitted an assessment of important cognitive and perceptual characteristics.

The importance of such a study will be highlighted by

reviewing the research examining distressed versus nondistressed and depressed versus nondepressed marital dyads. This overview will begin by examining the studies of marital distress, considering initially the non-interactional studies, and then reviewing the observational studies of marital distress. Following this review, questionnaire and interview studies and observational investigations of marital interactions in couples with a depressed spouse will be surveyed. Finally, the implications of the investigations of maritally distressed and nondistressed couples for the study of depression will be addressed.

Marital Distress

In describing communication, Lederer and Jackson (1968) contend that every message has at least three aspects: 1) the report aspect, which consists of the verbal content, 2) the command aspect, which concerns the nature and meaning of the message, and includes such aspects as voice tone, speed, gestures and other nonverbal behaviors, and 3) the context aspect, or the situation surrounding the message. A similar tripartite distinction has been suggested by Gottman (1979), who divided the three components of messages into: 1) content, which is essentially equivalent to Lederer and Jackson's report aspect; 2) affect, which concerns the nonverbal delivery of the message and is comparable to the command aspect; and 3) context, which concerns the nonverbal behaviors of the listener. Both Gottman and Lederer and Jackson contend that the meaning and perception of messages varies as a function of these three main aspects.

In attempting to identify the dynamics of marital

communication, studies have approached the area of marital interaction from a number of theoretical positions. Two of the more popular are the social learning model and the communication model. From a social learning perspective, behaviors are viewed as social reinforcers, and mutually rewarding relationships are assumed to be characterized by high degrees of positive reinforcement. Distressed relationships, in contrast, contain a high proportion of punishments and lack of positive reinforcement (e.g., Markman, Notarius, Stephen, & Smith, 1981), and involve a tendency to reciprocate negative behaviors. Cognitive factors are assumed to play a role in the appraisal of the marital relationship and the partner's behavior, which determines subsequent behavior and current marital satisfaction (Jacobson & Margolin, 1979).

The communication model defines good communication as a low discrepancy between intent and impact of messages. Defined in this manner, good communication is more characteristic of nondistressed than of distressed couples (Gottman, 1979). Because communication occurs on more than one level simultaneously, conflicts or discrepancies in the different levels of the message may result in poor communication. For example, the literal aspect of a message may be quite positive, but if a sarcastic tone is used or if the listener is preoccupied or angry, the message may be interpreted as being negative. Interestingly, Lederer and Jackson (1968) consider couples to be demonstrating good communication if they achieve noise-free communication 60 percent of the time.

Non-interactional Studies

There is considerable overlap in the methods and measures used

by investigators in the non-interactional studies reviewed. First, they typically administer a measure of marital adjustment, usually the Marital Relationship Inventory (MRI; Locke & Williamson, 1958) or its revised version, the Marital Adjustment Test (MAT; Locke & Wallace, 1959), to identify groups of maritally distressed and nondistressed couples. Second, the measure of marital distress is correlated with a measure of communication skill, such as the Primary Communication Inventory (PCI; Beach & Arias, 1983; Kahn, 1970), the Marital Communication Inventory (Murphy & Mendelson, 1973), questionnaires measuring communication, empathy and role disagreement (Hobart & Klausner, 1959), encoding and decoding on the Marital Communication Scale (Gottman & Porterfield, 1981; Noller, 1980, 1981), or decoding reactions to slides (Sabatelli, Buck, & Dreyer, 1982). Correlations have also been computed with the Areas of Change Questionnaire (ACQ; Weiss & Birchler, 1975) and the Marital Activities Inventory (Birchler & Webb, 1977), and with specific events, as measured by the Spouse Observation Checklist (SOC) or the Daily Satisfaction Rating (Jacobson, Follette & McDonald, 1982; Jacobson, Waldron & Moore, 1980), or with the quality and quantity of interaction (Williams, 1979).

These correlations have been remarkably consistent across studies. Repeatedly, scores on the dependent measures mentioned above have reliably differentiated distressed from nondistressed couples. Compared to nondistressed couples, for example, distressed couples have been found to have a greater number of unresolved problems, to spend less time interacting, and to have a lower frequency of sexual intercourse (Birchler & Webb, 1977).

They also exhibit more problematic verbal and nonverbal communicative skills (e.g., Beach & Arias, 1983; Gottman & Porterfield, 1981; Sabatelli et al., 1982), although the verbal component is a better discriminator (Narvan, 1967). Jacobson and his colleagues (Jacobson et al., 1980; 1982) have demonstrated a consistent trend for distressed couples to report higher rates of negative, and lower rates of positive, behaviors. In fact, the number of negative interactive behaviors was the best predictor of reported daily distress. Communicative ability and empathy have been found by other investigators to vary significantly with marital adjustment for both husbands and wives (Hobart & Klausner, 1959). Finally, both Kahn (1970) and Narvan (1967) concluded that marital disharmony is related to poor communication, and recommended forms of therapy aimed at improving marital communication.

These studies reveal clear differences between distressed and nondistressed marriages. They also support the position that there may be cognitive or perceptual differences that are related to marital satisfaction, and that, in part because of a history of unpleasant negative interactions, distressed spouses tend to view interactions with their partners negatively. It is possible that a negative cognitive set culminates in the communication difficulties characteristic of distressed marriages. There is also some evidence to suggest that nondistressed spouses have a positive perceptual bias when evaluating their communication skills (Beach & Arias, 1983), which may affect the interactions of these couples. What seems clear is that cognitive and perceptual factors cannot be

ignored in marital communication studies.

Although the results of these studies are quite consistent, many of the findings must be accepted with some caution because they are based upon self-report data. Although these studies claim to be studying communication, it is important to note that they do not involve actual marital interactions. The Primary Communication Inventory, for example, is a self-report measure of communicative skill, and it is possible that its apparent ability to differentiate distressed from nondistressed couples is due not to differences in actual communicative ability, but to a shared method variance with similar measures of marital distress.

Another concern involves the experimental tasks used in these studies. The Marital Communication Scale procedure, for example, has been criticized as being artificial and contrived (Gottman & Porterfield, 1981); the same criticism can be levied at the task of decoding reactions to slides (e.g., Sabatelli et al., 1982); these procedures may be measuring acting skills rather than the encoding ability assumed to characterize normal conversations. Thus, the construct validity of these instruments as measures of communication skill is questionable. Furthermore, it is likely that encoding of messages is different in the absence of feedback, a situation quite unlike a naturalistic interaction. Therefore, although these studies have provided some valuable information about marital communication, they are limited in scope. There is clearly a need for studies that utilize measures of communication that do not rely on a self-report methodology.

Interactional Studies

Although the bulk of interactional studies of marital communication have focused on differences between distressed and nondistressed marriages, several investigations have assessed differences between marital, as opposed to other dyadic, interactions. These studies typically compare the interactions of married and unmarried dyads, with the participants completing some structured interactional task. These tasks have included an analogue task that elicits disagreement (Ryder, 1968), a standard decision-making task (Winter, Ferreria, & Bowers, 1973), and a discussion of common marital disagreements identified with the Inventory of Marital Conflicts (Olson & Ryder, 1970).

Coding of these interactions has revealed that, compared to unrelated dyads, spouses are generally less polite to each other and interrupt each other more often (Winter et al., 1973), and are also more negative and less positive when interacting with each other. Furthermore, in marital interactions both partners show more disapproval, wives laugh less often, and husbands are more task-oriented than is the case in interactions with opposite-sex strangers (Ryder, 1968). Interestingly, these differences are generally obtained regardless of the couples' levels of marital satisfaction (e.g., Birchler, Weiss, & Vincent, 1975; Vincent, Weiss, & Birchler, 1975). Overall, therefore, coding of these interactions discriminates well between married and unmarried dyads. The major distinction seems to be that spouses treat strangers more nicely and less rudely than they treat each other. In addition, it appears that whereas responses to strangers are

trait-like and quite consistent, responses to spouses have no predictive value for interactions with others, and may be more state-like (Birchler et al., 1975). These findings highlight the importance of focusing on the marital relationship when attempting to identify communication problems, a position that will also be shown to be relevant to the study of marital interaction in couples with a depressed spouse.

A number of studies have begun to investigate the validity of self-report data in marital interaction by comparing a subject's own perspective with that of his spouse or of external observers. Two studies investigating self and spouses' perceptions and attributions of marital interaction have demonstrated that while behavior is seen by the participants as primarily positive, nondistressed couples show greater similarity in their ratings (Fichten, 1984; Lavin, 1987). In contrast, distressed subjects' perceptions and attributions for their own and their spouses' behavior tend to be biased in a self-serving manner, a finding which contradicts the self-report data presented by Beach and Arias (1983). Specifically, nondistressed spouses rated both themselves and their spouses as more skillful than did distressed subjects. The nondistressed subjects also rated themselves and their spouses as equally skillful (Fichten, 1984) and as attributing their own and their spouses' behavior to the same causes (Fichten, 1984; Lavin, 1987). In contrast, distressed subjects perceived themselves as more skillful and facilitative than their spouses and made fewer situational and more dispositional attributions about their own facilitative and their spouses' disruptive behavior

(Fichten, 1984). They also made more stable internal attributions for their own, as opposed to their spouses', positive behavior (Lavin, 1987).

Three studies have examined differences between spouses' and observers' perceptions of marital interactions. Hawkins, Weisberg, and Ray (1980) found that wives' perceptions of their spouses' behaviors fell short of their preferences, indicating that they may be dissatisfied with the quality of marital interaction. In addition, couples reported making greater use of their preferred communicative styles than the observers reported in coding the interactions. Floyd and Markman (1983) also reported discrepancies between spouse and observer perceptions of communicative behavior. Generally, both distressed and nondistressed couples' ratings were more positive than were observers' ratings, with the exception of distressed wives, who rated their husbands more negatively than did the observers. In addition, the observers rated the distressed wives more negatively than they did the nondistressed wives. These findings suggest that the subjects, especially those who are nondistressed, tended to view their own behavior in a favorable light, a position consistent with the self-report data of the nondistressed couples in the Beach and Arias (1983) study, in which individuals rated their communicative ability more favorably than did their spouses.

Finally, Gottman and Levenson's (1985) results appear to contradict the findings of the previous studies by failing to find differences between self/spouse (Fichten, 1984; Lavin, 1987) or self/observer (Floyd & Markman, 1983; Hawkins et al., 1980)

ratings. They are, however, consistent with the results of those studies with respect to the husband/wife convergence of nondistressed couples. Unfortunately, Gottman and Levenson failed to distinguish between distressed and nondistressed couples, making direct comparison to Floyd and Markman's (1983) study difficult. Nevertheless, these studies clearly highlight the need to investigate marital interaction from more than one viewpoint, using multiple measures.

Interactional studies comparing distressed and nondistressed marriages tend to utilize very similar designs. Couples are usually assigned to distressed or nondistressed groups on the basis of their scores on the Marital Adjustment Test or the Marital Relationships Inventory or, occasionally, on the basis of another indicator of distress, such as seeking marital therapy. Samples of the couples' interactions are obtained through the use of various discussion tasks. The three most often-used tasks are Olson and Ryder's (1970) Inventory of Marital Conflicts (IMC), discussions of real marital problems identified by the couple, and a set of standardized improvisations developed by Raush, Hertel, Barry, and Swain (1974). All of these tasks are designed to elicit problem-solving and conflict-resolution behaviors.

A number of remarkably consistent findings have emerged from studies attempting to identify interactional behaviors that reliably discriminate distressed from nondistressed couples. The most frequently obtained finding is that, in contrast to nondistressed couples, distressed couples exhibit more negative behaviors and fewer positive behaviors in their interactions (e.g.,

Billings, 1979; Birchler et al., 1975; Floyd & Markman, 1983; Gottman, 1979, Gottman, Markman, & Notarius, 1977; Gottman, Notarius, Markman, Bank, Yoppi, & Rubin, 1976; Koren, Carlton, & Shaw, 1980; Levenson & Gottman, 1983; Margolin & Wampold, 1981; Raush et al., 1974; Revenstorf, Vogel, Wegener, Hahlweg, & Schindler, 1980; Rubin, 1977; Schaap, 1982; Vincent et al., 1975). Furthermore, negative, as opposed to positive, behaviors (e.g., Gottman, 1979, 1980; Gottman et al., 1977; Schaap, 1982), nonverbal, as opposed to verbal, behaviors (e.g., Birchler et al., 1975; Gottman et al., 1977; Rubin, 1977), and high-, as opposed to low-conflict tasks (Gottman et al., 1976) also appear to have greater discriminatory power. Distressed couples, compared with nondistressed couples, have been found to exhibit greater negative reciprocity (i.e., are more likely to respond to negative behaviors with negative behaviors), and thus increase the probability of escalating discussions into negative interaction cycles (e.g., Billings, 1979; Gottman, 1979, 1980; Gottman et al., 1976, 1977; Levenson & Gottman, 1983; Margolin & Wampold, 1981; Revenstorf et al., 1980; Schaap, 1982). Finally, distressed couples are more likely to use fewer productive problem-solving statements (Margolin & Wampold, 1981; Vincent et al., 1975) and higher rates of criticism, coercion, and rejection (Koren et al., 1980; Raush et al., 1974).

There is conflicting evidence for other types of behaviors that differentiate distressed from nondistressed marriages. For example, whereas Rubin (1977), Gottman (1979), and Schaap (1982) all reported lower frequencies of agreements in distressed couples,

Haynes, Follingstead, and Sullivan, (1979) found a higher frequency of agreements in distressed couples. In attempting to understand this apparent discrepancy, it is important to note that in a separate study, Gottman et al. (1977) reported that in distressed couples, agreement is more often accompanied by negative nonverbal affect, as are expressions of feelings and disagreements. These findings emphasize the importance of considering both the verbal and nonverbal aspects of communication, and the need for further research to investigate the contradictory results.

Depression and Marital Interaction

The marital relationship has become a focus of studies investigating the etiology, maintenance, and treatment of depression. Nevertheless, research in this area lags far behind similar studies of other psychological disorders and studies of marital interaction in nonpsychiatric populations (see Coyne, Kahn, & Gotlib, 1987, for a discussion of the reasons for this delay). The investigations that have been conducted show a strong relationship between marriage and depression. Overall (1971), for example, reported that "once married" individuals exhibit elevated levels of depression, and Keller, Klerman, Lavori, Coryell, Endicott and Taylor (1984) reported that married depressed patients exhibit higher probabilities of depressive chronicity than do unmarried patients. Although significant negative correlations have been reported between marital satisfaction and depression, it is impossible at this point to determine the nature of the causal relationship between these two factors (Birtchnell & Kennard, 1983; Briscoe & Smith, 1973; Coleman & Miller, 1975; Crowther, 1985;

Ilfield, 1977; Patton & Waring, 1984; Renne, 1970), or whether they are both related to a third variable such as poor communication (see Gotlib & Hooley, 1988, for an extended discussion of this issue).

Several models of depression have been advanced that would account for the communication problems in the marital interactions of depressed persons. Coyne's (1976b) interactional description of depression posits that the behavior of depressed individuals actually creates a negative environment, engaging others in such a manner that support is lost or, at best, that ambiguous (both supportive and hostile) reactions are elicited. When depressed individuals notice these ambiguous or discrepant messages, they become increasingly more symptomatic in an attempt to gain support, making it even more aversive for others to interact with them. This "deviation-amplifying" process continues to the point where people either withdraw completely from interactions with the depressed persons or have them withdrawn through hospitalization.

In many respects, Coyne (1976b) argues for the utility of a communication deficits approach to the study and understanding of depression, which is analogous to the communication model of understanding distressed marital interaction. In both cases there is a discrepancy between the intent and impact of messages, with the suggestion that the meaning of the messages communicated may be somewhat ambiguous or unclear. Messages sent are intended to be taken as positive or supportive, but are perceived by the depressed person as negative. According to Coyne, this misperception is due to the discrepant nature of the message sent (i.e., verbally

positive but nonverbally negative); in fact, the depressed person accurately perceives and reacts to the negative qualities of the message.

In addition, there is evidence to suggest that both the depressed person and the maritally distressed individual may be cognitively set to attend to the negative aspects of such ambiguous messages (cf. Gotlib, 1983; Gotlib & Cane, 1987; Gotlib & McCann, 1984). Beck's (1967, 1976) cognitive model of depression is also consistent with the communication model of marital distress, although Beck would explain the discrepancy between intent and impact of messages as a negative distortion on the part of the depressed individual, rather than a tendency to attend to the negative aspects of an ambiguous message. On the other hand, Lewinsohn's (1974) social skills model of depression is quite similar to the social learning model approach to understanding marital distress. Both the depressed individual and the maritally distressed person are seen to lack positive reinforcement partly because they are incapable of eliciting the reinforcement due to deficits in social skills. Indeed, several studies have shown that the behavior of depressed persons and the interactions of maritally distressed couples are characterized by deficits in both verbal and nonverbal social skills (e.g., Beach & Arias, 1983; Birchler et al., 1975; Gotlib, 1982; Gotlib & Robinson, 1982; Gottman & Porterfield, 1981; Haynes et al., 1979; Kahn, 1967; Lewinsohn, Mischel, Chaplin, & Barton, 1980; Libet & Lewinsohn, 1973; Noller, 1980).

Interestingly, although the study of marital interactions of

couples with a depressed spouse developed independently from the marital distress literature, the theoretical formulations are remarkably similar. Furthermore, it has become obvious that certain aspects of the marital interaction and depression literatures are comparable.

Questionnaire and Interview Studies

A number of questionnaire and interview studies reveal a relationship between social support and depression. In a large epidemiological study in England, Brown and Harris (1978) identified four factors that leave women vulnerable to depression: having three or more children under the age of 14, being unemployed, losing one's mother before the age of 11, and lacking a confiding relationship with a spouse or boyfriend. The importance of an intimate confiding relationship in decreasing vulnerability to depression has also been replicated with other samples (Costello, 1982; Roy, 1978). These findings highlight the importance of a quality relationship, and serve as an impetus for the study of the marital relationships of depressed individuals.

A major series of studies investigating marital disturbance and depression was conducted at the Yale University Depression Research Unit by Weissman and her colleagues (e.g., Bothwell & Weissman, 1977; Bullock, Siegel, Weissman, & Paykel, 1972; Rounsaville, Prusoff, & Weissman, 1980; Rounsaville, Weissman, Prusoff, & Hercog-Baron, 1979; Weissman & Paykel, 1974). These researchers conducted extensive interviews with 40 depressed female patients over their course of treatment. These patients reported problems in marital functioning in the areas of affection,

dependency, sexual functioning, and communication. Weissman and Paykel (1974) found that these women lacked affection for their husbands, and hostility was frequently overt. Compared to a control group, the depressed women indicated that their marital relationships were the most impaired area of functioning. Furthermore, a majority of the depressed patients presented to treatment with marital problems, and an increase in marital disputes was the most frequently reported event prior to requesting treatment.

Paykel and Weissman (1973) assessed the social adjustment of these patients, and reported deficits in work performance, anxious rumination, interpersonal friction, inhibited communication, submissive dependency, and disturbances in family attachments. By the end of treatment all of these impairments had improved, with the exception of inhibited communication and interpersonal friction, which may lead to defective communication. In fact, Bothwell and Weissman (1977) reported that impairments in marital and personal relationships persist as long as four years after an acute depressive episode. It seems plausible, therefore, that this defective communication may be a consequence of depressive interactions, but concommitant with or symptomatic of marital dissatisfaction.

Rounsaville et al. (1979) also found that the presence of marital disputes was an important determinant of treatment outcome. Over half of the women presented to treatment reporting marital problems. Rounsaville et al. reported that resolution of these continued marital disturbances was associated with less improvement

and with a greater tendency to relapse. Monroe, Bromet, Connell and Steiner (1986) have also shown that the level of marital support and life events predict future depressive symptomatology. Similarly, Waring and Patton (1984) reported a relationship between marital intimacy and future depressive symptomatology. Finally, Hooley, Orley, and Teasdale (1986) and Vaughn and Leff (1976) found that depressed patients whose spouses are characterized by high Expressed Emotion (a measure of criticism and hostility that correlates highly with marital distress) are at elevated risk of relapse. These studies suggest that marital distress may lead to depressive episodes, although, as Gotlib and Hooley (1988) indicate, this is not necessarily a unidirectional relationship.

As marital distress is related to relapse in depressed patients, so depression appears to be related to a negative marital course. Beach, Winters, Weintraub, and Neale (1983), for example, found that 84 percent of the depressives in their sample showed a "negative course" of marital change in the four years following discharge from hospital. In fact, Beach et al. reported that this negative course could be predicted from Marital Adjustment Test scores at the time of discharge. Further validation of this finding is provided by Merikangas (1984), who found a divorce rate of 20% in depressed patients two years after discharge to be nine times that of the expected rate for the general population. It is clear, therefore, that the relationship between depression and marital distress, although strong, is also complex. Indeed, it is likely that these two constructs act in an interactive, or reciprocal, manner.

Although these investigations represent a milestone in the study of the marital relationships of depressed patients, the Weissman group has been criticized for its focus on the depressed woman as the source of marital problems (Kahn, Coyne, & Margolin, 1985). Similarly, Rush, Shaw, and Khatami (1980) have argued that the depressive's spouse cannot be considered neutral, and that marital dysfunction occurs in an interactional context. In fact, studies investigating the impact of depression on the patients' spouses have shown that the spouses of depressed patients themselves exhibit high levels of distress, a consequence of the strains placed on them by the depressive episode (Coyne, Kessler, Tal, Turnbull, Wortman, & Greden, 1987). Furthermore, the spouses of current and remitted depressives report more family and social problems than do control spouses (Krantz & Moos, 1987), and the spouses of depressed patients report more depressive symptoms and a less supportive family environment than do spouses of nondepressed controls (Mitchell, Cronkite, & Moos, 1983). The spouses' levels of marital distress also seem to be related to particular types of symptoms exhibited by the depressed patients. Hooley, Richters, Weintraub, and Neale (1987), for example, found that higher levels of marital distress are reported by spouses of patients showing negative symptoms (an absence of normal functions) and impulse-control problems than are reported by spouses of patients with positive symptoms (e.g., hallucinations, delusions). These studies highlight the need to study the behavior and perspective of the spouse, as well as the patient, in order to understand the relationship between depression and marital distress.

In summary, questionnaire and interview studies examining the marriages of depressed individuals have revealed a number of interesting findings similar to those found in studies of marital distress in nonpsychiatric populations. Researchers in the areas of marital distress and marital interaction in couples with a depressed spouse have found both these types of marriages to be characterized by higher rates of negative behavior, greater negative reactivity to recent negative events, greater hostility and more frequent criticism, and more inhibited communication. As is the case with all self-report data, however, these studies may be influenced by response biases and demand characteristics. Nevertheless, the results presented above should not be dismissed so lightly. Both of the major interview studies (Brown & Harris, 1978; Weissman & Paykel, 1974) attempted to control for these biasing effects, and both included validity data that suggest that a fair degree of success was obtained.

Cautiously accepting these data, the studies point to a number of directions for future research. Consistent with the marital distress literature reviewed earlier, these studies suggest that similar dynamics may be operating in the marriages of depressed individuals. Both distressed and depressed marriages seem to be characterized by poor communication. The difficulties in marital roles of depressives suggest that tasks and target behaviors for studies should be more interactional in nature, as has been done in recent investigations of marital distress. Studies investigating aspects of communication would be useful in elucidating deficits that may be characteristic of couples with a depressed spouse.

It would also be useful to include measures of marital satisfaction in studies of the marital interactions of depressives in order to assess the relationship of communication to both marital distress and depression. Given that most studies of the interactions of depressed patients and their spouses that have included measures of marital distress have reported significant correlations between depression and marital distress (e.g. Beach et al., 1983; Coleman & Miller, 1975), it is likely that some studies of depression have actually been examining the combined effects of depression and marital distress.

Interactional Studies

Turning to the interactional studies of depression, the focus of this section will be exclusively on marital interaction. It should be noted, however, that the bulk of interactional studies in the area of depression have been conducted with depressed individuals in one-time encounters with strangers (e.g. Coyne, 1976a; Gotlib, 1982; Gotlib & Robinson, 1982; Strack & Coyne, 1983). While these studies with strangers may be useful in examining the social skills of depressives and the reactions of others to the depressives, the results of these investigations may not generalize to interactions with more intimate others, such as spouses. As Weissman and Paykel (1974) found, the social problems of depressed women were more pronounced in close relationships. Unfortunately, studies examining marital interaction in marriages with a depressed spouse are relatively rare.

Similar to the marital interaction studies comparing spouse versus stranger interactions (e.g., Birchler et al., 1975; Vincent

et al., 1975), Hinchliffe and her colleagues (Hinchliffe, Hooper, & Roberts, 1978; Hinchliffe, Hooper, Roberts, & Vaughn, 1975) had 20 depressed inpatients interact with their spouses and with opposite-sex strangers while in the hospital, and again with their spouses after recovery. Compared to the interactions of surgical patients and their spouses, couples with a depressed spouse showed greater tension and negative expressiveness. After recovery, the interactions of male depressed patients resembled the surgical controls, but the depressed women continued to show high levels of negative expressiveness. This finding is consistent with Weissman and Paykel's (1974) interview data, which revealed that interactions between depressed women and their spouses are characterized by interpersonal friction even after recovery. This finding also suggests that a fair level of marital distress may exist in the marriages of depressed women.

Hinchliffe et al. (1978) also found that the marital interactions of depressed patients were characterized by high levels of disruption, negative emotional outbursts, and incongruity between verbal messages and nonverbal qualities, such as voice tone. This latter finding supports Coyne's (1976b) hypothesis of a discrepancy between verbal and nonverbal responses to depressed individuals. This finding is also consistent with data gathered from marital interaction studies of marital distress supporting the communication deficit model, which revealed positive verbal messages being delivered with negative nonverbal affect (Gottman, 1979). Again, these characteristics of interaction remained after recovery in depressed women, but not in depressed men.

Perhaps the most interesting findings in Hinchliffe et al.'s (1978) study involve differences between the interactions of the depressed patients with their spouses and with strangers. On almost every measure used in the study, the interactions with the spouses were more pathological, more negative and more uneven than were the depressives' interactions with strangers, suggesting that strangers may not be a vital part of the patient's social system and, therefore, may have less (or no) impact on the depressive's symptomatology. These differences also suggest that depressives demonstrate deficits in communication performance to a greater degree with spouses than they do with strangers; therefore, they may not lack communication skills in general. Finally, these findings are consistent with the results of marital interaction studies reviewed earlier that demonstrated that individuals are generally nicer and less negative with strangers than they are with spouses (e.g., Birchler et al., 1975; Vincent et al., 1975; Winter et al., 1973).

Merikangas, Ranelli, and Kupfer (1979) focused on the marital interactions of depressed female inpatients weekly over a six-week period. These investigators found that, as treatment progressed, there was an increase in the patient's influence and a concomitant decrease in the spouse's influence. By the end of treatment there was a more equal balance of power, a finding corroborated by a decrease in joint speech or interruptions over time.

Although the findings of Hinchliffe et al. (1978) and Merikangas et al. (1979) are provocative, their conclusions must be accepted with some caution. Neither study included a nondepressed

psychiatric control group, and Merikangas et al. included no control group at all. Further, neither study included measures of marital distress. These limitations make it difficult to generalize the results confidently to couples with a depressed spouse. It is possible, for example, that the deviant communication patterns found in these studies may have been characteristic of any couples with a spouse having a psychiatric condition, or may simply have been a function of marital distress.

More recent studies of depression have begun to include measures of marital distress, but have still failed to isolate the influences of distress and depression on marital communication. Two of these studies have demonstrated that hostility seems to be characteristic of the interactions of depressed persons and their spouses (Arkowitz et al., 1982; Kahn et al., 1985). Both of these studies involved discussions of problems selected from a list of areas of disagreement. Results revealed that spouses of depressed subjects reported feeling more anxious, hostile, and sadder following interactions with their spouses (Arkowitz et al., 1982), and experienced each other more negatively than did spouses of psychiatric and nonpsychiatric control subjects (Kahn et al., 1985). Despite feeling hostile, the spouses of the depressed subjects tended to inhibit these feelings from direct expression but revealed them nonverbally; that is, no differences were found for verbal behavior, but the depressed couples exhibited lower rates of positive nonverbal behavior, and husbands of depressed and nondepressed patients showed higher rates of negative nonverbal behavior than did husbands of non-patients (Arkowitz et al.,1982).

However, it is not clear whether these findings are specific to couples with a depressed spouse or are more generally characteristic of couples with marital difficulties. Indeed, the depressed couples in both these studies were found to be scoring in the distressed range, in contrast to the couples in the normal control group, who scored in the nondistressed range. Thus, depression and marital distress are confounded in these studies, making it impossible to confine the conclusions to depression-associated differences in interaction.

In a study conducted by Kowalik and Gotlib (1987), depressed and nondepressed psychiatric outpatients and nonpsychiatric controls and their spouses participated in low- and high-conflict interactional tasks while simultaneously coding on a 5-point scale (ranging from very negative to very positive) both the intended impact of their own behavior and their perception of their spouses behavior. Although marital distress was assessed by the Marital Adjustment Test (MAT), the three groups were found not to differ on this measure. Consistent with Coyne's (1976b) interactional formulation, the depressed patients recalled significantly more negative perceptions than did the nondepressed nonpsychiatric subjects, and significantly fewer positive perceptions than did the nondepressed patients, although this negative recall represented an accurate recall of the subjects' actual coding. In addition, the depressed patients were found to estimate matches between intents and perceptions (concordance) accurately, even though their estimate was somewhat lower than that of the nondepressed patients. Kowalik and Gotlib also provided strong support for the position

that nondepressed persons tend to distort social stimuli in a positive direction: despite a lack of group differences on estimations of concordance for the spouses, the spouses of all three groups estimated higher concordance than they actually coded, as did the nondepressed subject groups. Finally, the results of Kowalik and Gotlib's study are consistent with the research suggesting that the spouses of depressed patients may feel hostile and anxious during and following interactions with the depressed spouse, but that they tend to try to inhibit these negative feelings during those interactions. In the absence of differences in actual coding among the three groups of spouses, it was found that the spouses of the depressed patients recalled more negative intents and fewer positive intents than they actually coded, suggesting that they recall interactions with the depressed spouse in a negative manner.

Although these studies included measures of marital distress, they failed to isolate the effects of depression and marital distress on marital communication. Recently, various studies have attempted to do so by implementing covariance techniques or by including appropriate control groups. Ruscher and Gotlib (1988), for example, assessed the marital interactions of depressed and nondepressed couples and found that the depressed couples showed more verbal and nonverbal negative behavior and reported greater negative affect following the interactions. However, these group effects were no longer significant when the effects attributable to marital distress were partialled out by using MAT scores as a covariate. These results suggest that the obtained differences

were largely attributable to the marital distress of the subjects, rather than to their depression.

Using an independent-groups approach to isolate the effects of marital distress and depression on marital communication, Hautzinger, Linden, and Hoffman (1982) and Linden, Hautzinger, and Hoffman (1983) investigated the interactions of depressed and nondepressed couples seeking marital therapy, Consistent with the studies reviewed earlier, communication in maritally distressed couples with a depressed partner was found to be more disturbed than in couples without a depressed spouse. Specifically, the communication patterns in depressed couples tended to be more uneven, negative and asymmetrical than in couples without a depressed partner, who tended to be more positive, reciprocal and supportive in their interactions. Spouses of depressed partners seldom agreed with the depressive, offered help combined with negative statements, and also evaluated the depressed spouse negatively. In contrast, the depressed subjects showed more agreement, spoke positively of their spouses but evaluated themselves negatively. Couples with a depressed spouse also expressed more dysphoric and uncomfortable feelings. Overall, it seems that even with marital distress controlled, couples with a depressed partner have problematic interactions.

In another attempt to untangle the relationships among depression, marital distress and communication, Biglan et al. (1985) compared the marital interactions of normal (nondistressed, nondepressed) couples with those of depressed, distressed couples and depressed, nondistressed couples. These investigators found

that, in contrast to the nondepressed subjects, the depressed women showed higher rates of depressive behavior and less problem-solving behavior than did their husbands. The depressed groups also showed less self-disclosure than did subjects in the nondepressed group. Finally, subjects in the distressed, depressed group showed less facilitative behavior than did subjects in the two nondistressed groups. Thus, disruptive influences attributable to both depression and distress were identified.

The results of those studies that have attempted to separate the effects of depression and marital distresson marital communication, while interesting, are not entirely conclusive. Hautzinger et al. (1982) and Linden et al. (1983) failed to include nondistressed control groups in order to evaluate distress-nondistressed differences. Similarly, Biglan et al. (1985) failed to include a nondepressed, distressed group to complete their design. Moreover, the depressed, nondistressed group in this study was significantly more distressed than was the normal, nondistressed group, rendering the depression-specific conclusions less tenable. Finally, depression-specific findings are contradictory: whereas Ruscher and Gotlib (1988) found that covarying the effects of marital distress statistically eliminated the effects due to depression, Biglan et al. identified disruptive effects that appeared to be specific to depression. Clearly, more research along these lines is needed to clarify the findings of these studies.

Despite these shortcomings, these studies provide valuable information concerning the relationship between depression and

marital functioning, and the role of communication in both of these areas. However, the study of marital interaction in couples in which one spouse is depressed is a recent endeavor, and studies investigating face-to-face interactions are rare. Furthermore, the studies that have been conducted, by and large, fail to address the questions of specificity both to depression and to marital dissatisfaction. Most studies failed to control for effects due to marital distress, and those that did control for marital distress failed to control for psychological distress. Thus, it is not clear that obtained communication deficits are specific to depression rather than characteristic of patients with any psychological disorder. Alternatively, these communication difficulties may be simply a function of marital maladjustment, and are therefore also likely to occur in the absence of pathology.

Unlike the studies of marital distress, many of the studies of marital interaction and depression are lacking a theoretical basis. These studies are exploratory and descriptive for the most part, and do not have clearly stated hypotheses concerning differences in the interactions between depressed and nondepressed couples. To some extent this is to be expected, given that most of the research has been conducted quite recently (certainly within the last decade). Notably, some more recent studies are beginning to test Coyne's (1976b) interactional formulation of depression (e.g., Arkowitz et al., 1982; Biglan et al., 1985; Hautzinger et al., 1982; Kahn et al., 1983; Kowalik & Gotlib, 1987; Linden et al., 1983; Ruscher & Gotlib, 1988). It is likely that theoretical refinement will develop as the body of literature in the area

grows.

In addition, most of the studies that examine marital interaction have used external raters as coders of the couples' interaction and communication. The reliability of this approach has been questioned by Gottman et al. (1976), who suggested that, "It is possible that what is coded as a warm smile by two observers is perceived as a sarcastic smirk to a spouse" (p. 16). Couples may have their own unique manner of communicating that is not easily rated by independent observers. In fact, several studies have reported differences between spouses' and observers' perceptions of communication (e.g., Beach & Arias, 1983; Fichten, 1984; Floyd & Markman, 1983; Hawkins et al., 1980). In addition, it may be argued that the way in which a couple views their communication is more important to their interaction than how it is seen by others. Despite the problems in the research previously noted, some clear directions for future research are indicated, and are outlined below.

Cognitive and perceptual factors may prove to be important in the study of marital interaction in couples with a depressed spouse. It may be the case that the couples' perception of their interaction is more critical in determining its process and outcome than is the observer-rated quality of the interaction. Both the distress and depression marital interaction research has shown than perceptual differences in coding communicative abilities exist, and that they may be influenced by relationship history (cf. Gotlib & Hooley, 1988). Thus, it would be informative in studies of depression to include both self-ratings and observer-ratings of

marital interaction.

Given the high correlation between depression and marital distress, it remains difficult to conclude that group differences found in the marital interaction depression studies are due to depression and not to marital distress. Coyne's (1976b) interactional description of depression has yet to be adequately tested with direct reference to depression in the absence of marital distress. It may be that the description is more generally one of marital distress. It has been shown that communication problems occur in distressed marriages in the absence of depression, but it has not been demonstrated as reliably that these difficulties occur in couples with a depressed spouse in the absence of marital distress. It is possible, therefore, that these studies of marital interaction with a depressed spouse are simply evaluating the effects of marital distress on communication in couples in which one of the spouses happens to be depressed. More likely, the communication problems are related to both marital distress and depression, and investigations of interaction at one point in time are not appropriate to explain the complex interrelationships of depression, marital distress and communication problems. In this respect, longitudinal studies would be useful in disentangling the interrelationships of these variables and in evaluating their predictive power for future outcomes (e.g., marital breakdown, depression relapse).

Finally, the most important factor to consider in future studies of the marital interactions of depressives is the use of control groups that would allow conclusions to be made regarding

the specificity of obtained communication deficits to depression. Well-controlled studies of this type are clearly a priority in marital interaction research of depressives, in order to eliminate the confounding that, to this point, has rendered as tenuous conclusions regarding the specificity of obtained findings to depression.

The Present Study

The present study was designed to address the issues of multimodal measurement and the stability and specificity of deficits discussed above by investigating the quality of marital interaction in both maritally distressed and nondistressed marriages, and in marriages with and without a clinically depressed spouse. The behavior of both spouses was assessed, and both self- and observer-ratings were employed. In addition, in an attempt to evaluate the interrelationships among depression, marital distress, and communicative abilities, the couples were assessed at two points in time. By investigating these interactions, it was possible to begin to identify some of the deficits which may be specific to maritally distressed couples or to depression.

Five groups of subjects were examined in the present investigation: 1) ten maritally distressed, depressed psychiatric patients and their spouses; 2) seven maritally distressed, nondepressed psychiatric patients and their spouses; 3) seven maritally nondistressed, nondepressed psychiatric patients and their spouses; 4) ten maritally distressed, nondepressed, nonpsychiatric couples from the community; and 5) twelve maritally nondistressed, nondepressed, nonpsychiatric couples from the

community. It was the intention of the researcher to also include a group of depressed, nondistressed couples in order to complete a full factorial design, but none could be located. This absence of depressed, nondistressed subjects may be attributed to the high correlation between marital distress and depression, and to the fact that happily married, depressed patients are rarely encountered. It is also probable that such individuals are less likely to seek treatment, relying instead on a supportive spouse.

Each subject completed a number of self-report measures, including the Primary Communication Inventory, the Marital Adjustment Test, and the Impact Message Inventory In addition, each couple participated in a low-conflict interactional task at the beginning of their treatment and again eight to twelve weeks later. In participating in this task, couples simultaneously coded on a talk-table (Gottman et al., 1976) both the intended intents of their own behavior and their perceptions of their spouses' behavior on a five-point scale, ranging from very negative to very positive. Following the interaction, each subject and spouse was asked to recall the percentage of their intents and perceptions that were positive and negative, and were asked to estimate how often they thought they matched codes with their spouse during the interaction (concordance). External raters also coded the overall impact of each message. Both recalled and actual coding, estimations of and actual concordance, and discrepancies between self and observer ratings were assessed, and their relationship to both depression and marital distress was examined at two points in time. Finally, each couple also participated in a conflict resolution task at each

session. Videotapes of these conversations were coded by external raters using a coding system designed to identify interactional differences between distressed and nondistressed couples, and depressed and nondepressed couples. The proportions of the behavioral codes were examined and their relationship to depression and marital distress over time was evaluated.

Hypotheses

The following dependent measures were evaluated in the present study: a) self-report questionnaires measuring communicative ability, recall of coding and estimations of concordance using the talk-table, and impact of the spouse on their partner during the conflict resolutions; b) actual proportions and concordance of talk-table codes and observer-rated proportions of talk-table codes; and c) observer-rated proportions of both verbal and nonverbal codes and verbal-nonverbal discrepancies during the conflict-resolution task.

Several hypotheses can be drawn from the various models of depression and marital distress discussed earlier, and from the research investigating marital interaction both in distressed couples and in couples in which one spouse is depressed. These hypotheses can best be organized with respect to the issues concerning consistency across raters, the stability of observed effects, and the specificity of the obtained findings.

1. Consistency across raters. The issue of consistency across rating viewpoints relates to the hypothesis of "depressive realism" versus the "negative distortion" hypothesis. Both positions concur that depressed individuals have a tendency to

perceive stimuli more negatively than do nondepressed individuals. They differ, however, with regard to who is posited to perceive stimuli accurately. Essentially, the "depressive realism" position contends that whereas depressed persons perceive a negative world accurately, nondepressed individuals tend to distort incoming stimuli in a positive direction (e.g., Alloy & Abramson, 1979). In contrast, the "negative distortion" hypothesis argues that depressed individuals have a negative cognitive schema that leads them to perceive incoming stimuli as more negative than is actually the case, while nondepressed individuals are assumed to have accurate perceptions (Beck, 1967, 1974).

The marital distress literature has also begun to investigate the realism of perceptions, given the tendency of distressed individuals to perceive stimuli more negatively than do nondistressed individuals. There have been suggestions that distressed couples are perceiving accurately, whereas nondistressed individuals tend to view their communication skills in a favorable light (e.g., Beach & Arias, 1983; Floyd & Markman, 1983; Hawkins et al., 1980), a position that will be referred to as "distressed realism." In contrast, and congruent with the depression models, there is a position that argues that distressed individuals are primed to attend to negative stimuli and, therefore, to hold a negatively distorted view of their marital interaction (Jacobson et al., 1980; 1982). This will be referred to as the "distressed negative distortion" hypothesis.

For the talk-table interaction, there were five perspectives of the same codes: self-coded, recall of self-coded, spouse-coded,

recall of spouse-coded and observer-coded, for positive, neutral, and negative codes. There were also two measures of concordance: actual and estimated. Finally, there was a self-report measure of discrepancy between self and spouse ratings of communicative ability, the Primary Communication Inventory - Discrepancy Score (PCID). According to the "depressive realism" hypothesis, it was predicted that the depressed subjects would recall their coding accurately, and that their actual codes would not differ from those of their spouses or the observers. The depressed subjects would also estimate their concordance accurately. Further, the nondepressed subjects would recall more positive and/or fewer negative intents and perceptions than they, their spouses, or the observers actually coded. In addition, they would also overestimate their actual concordance. Finally,it was predicted that the depressed subjects would show the lowest discrepancy on the PCID.

In contrast, the "negative distortion" hypothesis predicted that the depressed subjects would recall fewer positive and more negative intents and perceptions than they, their spouses, or the observers actually coded, and would estimate lower concordance than they actually coded. In addition, the nondepressed subjects would recall their coding accurately, and their actual codes would not differ from those of their spouses or the observers. Finally, the nondepressed subjects would estimate their concordance accurately, and obtain negative PCID scores, indicating that they perceived themselves more negatively on the PCI than did their spouses.

It is important to note, however, that depression may not be

the critical element in distinguishing among groups. Differences may be related more to the subjects' levels of marital distress. Therefore, according to the "distressed realism" hypothesis, it was predicted that the distressed subjects would recall their coding accurately and that their actual codes would not differ from those of their spouses or the observers. The distressed subjects would also estimate their concordance accurately. Furthermore, the nondistressed subjects would recall more positive and/or fewer negative intents and perceptions than they, their spouses, or the observers actually coded, would overestimate their actual concordance, and would obtain lower discrepancy scores on the PCID than would the nondistressed subjects.

In contrast, the "distressed negative distortion" hypothesis predicted that the distressed subjects would recall fewer positive and more negative intents and perceptions than they, their spouses, or the observers actually coded, and would estimate lower concordance than they actually coded. In addition, the nondistressed subjects would recall their coding accurately, and their actual codes would not differ from those of their spouses or the observers. Finally, the nondistressed subjects would estimate their concordance accurately, and would ottain negative scores on the PCID.

2. Stability of effects. In order to assess longitudinal changes in the dependent variables and evaluate the relationship between marital distress, depression and communication, subjects completed all measures at two times: once early in treatment and again, eight to twelve weeks later. Because the depressed subjects

were receiving treatment for their depression, it was expected that they would no longer be depressed at the time of the second session. Further, based on previous research that has shown marital difficulties to be enduring in the marriages of depressives (e.g., Beach et al., 1983; Bothwell & Weissman, 1977; Gotlib, 1986; Hinchliffe et al., 1978; Merikangas, 1984; Paykel & Weissman, 1973), it was predicted that the marital distress scores would remain relatively stable.

It was also predicted that if communication problems were merely a symptom of depression, they would improve as the depression improved. Specifically, scores on the PCI and IMI would improve, and the talk-table and conflict resolution interactions would become more positive and less negative. Alternatively, if the communication problems were more strongly related to marital distress, they would remain unchanged at session two, provided that the level of marital distress was stable.

3. Specificity of results. In order to assess the specificity of observed differences to depression rather than general pathology or marital distress, five groups of couples were included: a depressed, maritally distressed group; a nondepressed, maritally distressed psychiatric group; a nondepressed, maritally nondistressed group; a nondepressed, nonpsychiatric, maritally distressed group; and a nondepressed, nonpsychiatric, maritally nondistressed group. Four possibilities were investigated: effects may be due to depression alone (depression hypothesis), to marital distress alone (distress hypothesis), to general pathology (pathology hypothesis) or effects may be cumulative, resulting from

the presence of two or more of the above factors (additive hypothesis).

According to the depression hypothesis, the depressed patients, in contrast to their nondepressed spouses and to the four groups of nondepressed subjects and spouses, will score lower on the Primary Communication Inventory and show more negative and less positive impact on the Impact Message Inventory. The depressed patients will also code and recall a higher percentage of negative and a lower percentage of positive intents and perceptions from the talk-table interaction. As well, observers will code a higher proportion of talk-table messages as positive and/or a lower proportion as negative for the nondepressed subjects and spouses than for their depressed counterparts. Based on research suggesting that nondepressed subjects tend to rate their social skills more favorably than do depressed subjects (Kowalik & Gotlib, 1987; Lewinsohn et al., 1980), the depressed patients are expected to estimate lower concordance than are the nondepressed subjects and spouses. In addition, the depressed group will exhibit lower concordance than will the four nondepressed groups. Moreover, in contrast to the nondepressed subjects and spouses, the depressed subjects will emit higher rates of negative and/or lower rates of positive verbal and nonverbal behaviors on the conflict-resolution task. Finally, the spouses of the depressed patients, in contrast to the other subjects and spouses, will show higher rates of ambiguous messages, specifically, positive verbal messages delivered with negative nonverbal affect.

In contrast, the distress hypothesis predicts that the three

maritally distressed groups will differ from the two maritally nondistressed groups of subjects and spouses, but not from each other. Specific predictions were the same as those for the depression hypothesis: lower scores on the PCI and IMI, more negative recall and more negative actual self- and observer-coding on the talk-table, lower actual and estimated concordance, higher rates of negative and lower rates of positive verbal and nonverbal behavior, and higher raters of ambiguous messages on the conflict resolution task for the distressed subjects and spouses than for the nondistressed subjects and spouses.

The pathology hypothesis makes the same predictions, but in this case the communication problems are predicted to be related to psychiatric status rather than depression. Thus, the subjects and spouses in the three psychiatric groups were predicted to differ from the nonpsychiatric subjects and spouses, but not from each other.

Finally, if an additive, or cumulative, model is supported, in which depression, psychiatric status, and marital distress all contribute to maladaptive communication, it was predicted that the depressed, distressed group would show the most maladaptive communication, followed by the nondepressed, distressed psychiatric group. Next would come the nondepressed, nondistressed psychiatric and the distressed nonpsychiatric groups, wno may or may not differ from each other depending on the relative contributions of psychiatric status and marital distress; the nondistressed nonpsychiatric group was predicted to show the most adaptive communication.

Method

Subjects

Forty-six couples served as subjects in this study, comprising the following five groups: ten maritally distressed, depressed psychiatric out-patients and their spouses, seven maritally distressed and seven maritally nondistressed, nondepressed psychiatric out-patients and their spouses, and nondepressed, nonpsychiatric couples from the community, ten of whom were maritally distressed and twelve maritally nondistressed.

Criteria for inclusion in the study for all subjects was: a) married or living common-law for at least one year; b) between the ages of 18 and 60; c) a minimum of an eighth grade education; and d) no evidence of brain damage, alcoholism, drug addiction, or current psychotic ideation. In addition, subjects in the two patient groups were currently in treatment on an outpatient basis with a mental health worker. Nonpsychiatric couples were not in treatment.

Consent was obtained from the patients, through their therapists, before any patients were contacted by the experimenter. All subjects were then contacted in person or by telephone requesting their participation in a study concerning marital communication. It was explained that the study was in no way connected with their treatment, that participation was voluntary, and that confidentiality was assured. All couples were paid $15.00 for their participation in each session.

Group assignment for the patient groups was based on the criteria of the third edition of the Diagnostic and Statistical

Manual of Mental Disorders (DSM-III; American Psychiatric Association, 1980; see Appendix A), and on scores on the Beck Depression Inventory-Short Form (BDI-SF; Beck & Beck, 1972; see Appendix B) and the Hamilton Rating Scale for Depression (HRSD; Hamilton, 1960; see Appendix C). Patients were classified as depressed if they obtained a diagnosis of major depressive episode or dysthymic disorder according to the DSM-III criteria and showed moderate to severe levels of depression, defined by minimum scores of 8 on the BDI-SF and 14 on the HRSD. Patients were classified as nondepressed if they did not meet the DSM-III criteria for the depressive disorders listed above and, further, obtained scores of 7 or less on the BDI and 13 or less on the HRSD. Each patient was also rated on the Global Assessment Scale (GAS; Spitzer, Gibbon, & Endicott, 1978; see Appendix D), which provides a rating of the overall level of functioning of a patient on a continuum of psychological health.

Community couples were solicited through a newspaper advertisement requesting couples to participate in a study examining marital communication. Additional criteria for inclusion in this group was a score of 7 or less on the BDI-SF and no reported current or past treatment for depression.

The criteria for assignment of all subjects into maritally distressed and nondistressed groups was based on their scores on the Marital Adjustment Test (MAT; Locke & Wallace, 1959; see Appendix E). To be assigned to the maritally nondistressed groups, both members of the couple had to obtain scores of 100 or greater on the MAT; if one or both members of the dyad obtained a score of

99 or lower, the couple was classified as maritally distressed.

Selection Measures

Several studies have shown that there exists a low degree of concordance between clinical ratings of depression and self-report measures of depression (e.g., Paykel, Prusoff, Klerman, & DiMascio, 1973). Consequently, the use of multiple measures has been recommended for investigations of this disorder. In the present study, therefore, three different measures of depression were utilized to classify patients as depressed or nondepressed. In addition, one of the measures (BDI-SF) was used to assess the severity of depression during the two testing sessions.

DSM-III Diagnosis. The first measure used to assess depression was the DSM-III diagnostic criteria of the American Psychiatric Association. The DSM-III is essentially descriptive in nature, and provides clinicians with specific criteria in an effort to increase inter-rater reliability of diagnoses for clinical and research purposes. It furnishes the diagnostician with information reflecting the current state of knowledge about disorders in several areas, including essential features, associated features, age at onset, course, impairment, complications, predisposing factors, prevalence, sex ratio, familial pattern, and differential diagnosis. Diagnoses using the DSM-III criteria are based on an interview with the patient.

Early field trials examining the inter-rater reliability of DSM-III have found it to have acceptable levels of reliability -- greater reliability, in fact, than its two earlier versions (DSM and DSM-II). This finding was particularly noticeable with respect

to diagnoses for the categories of Schizophrenia and Major Affective Disorders, which showed reliabilities of .81 and .68, respectively, for the first phase of field trials based on a sample of 339 patients, and .81 and .80 for the second phase of field trials involving 331 patients (Spitzer & Forman, 1979; Spitzer, Forman, & Nee, 1979).

Beck Depression Inventory - Short Form. The second measure of depression was the BDI-SF (Beck & Beck, 1972). The BDI-SF is a short form of the well-accepted Beck Depression Inventory (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961), which has been used to measure the depth and intensity of depression in several hundred research studies. The BDI-SF is a self-administered questionnaire which requires about 5 minutes to complete, compared with about ten minutes for the longer form. The short form consists of 13 of the original 21 categories of symptoms that had been observed and recorded during the course of psychotherapy with depressed patients. The categories selected for the inventory are characteristic of and specific to depression and are consistent with descriptions in the psychiatric literature.

For each of the 13 categories of symptoms for the short form, there is a graded series of four alternatives, scored from 0-3, indicating a range from a neutral to a maximum level of depression. The scale provides a multiple-choice format for respondents, who are instructed to select the statement in each category which best describes the way they are feeling at the present time. The scores for each category are then summed to obtain a total BDI-SF score, which represents a combination of the number of symptom categories

endorsed and their severity.

The short-form items were selected on the basis of a regression analysis of the longer form, which permitted condensation without the loss of reliability or validity (Beck & Beck, 1972). Studies assessing the validity of the longer form have found correlations with clinical ratings of depression ranging from .59 (Beck & Beck, 1972) to .77 (Bech, Gram, Dein, Jacobsen, Vitger, & Bolwig, 1975). The short form correlates .96 with the longer form and .61 with clinical ratings of depression (Beck & Beck, 1972). Beck and Beck, in fact, have reported that the correlation with clinical ratings of depression is slightly higher for the short than for the long form of the BDI (.61 vs. .59). Reynolds and Gould (1981) have also shown the short form of the BDI to be a viable alternative to the longer form without loss of reliability or validity. Due to its ease of administration, economy of time and utility, and acceptable levels of validity and reliability, the BDI-SF was used to assess the presence and severity of depression in all of the experimental subjects during the screening and subsequent testing sessions.

Hamilton Rating Scale for Depression. The third measure of depression was the HRSD, which is a 17-item questionnaire scored on the basis of a structured interview. Items selected to identify the presence and severity of depression are scored by the interviewer on a 0-2 scale for 8 items and a 0-4 scale for the remaining 10 items. By summing the ratings, a total score ranging from 0-52 is obtained, which represents a global rating of the severity of the depression. The HRSD has shown acceptable levels

of both inter-rater reliability (Bech et al., 1975) and validity (Carroll, Fielding, & Blashki, 1973).

Marital Adjustment Test. The MAT was used in the present study to measure marital distress. This 15-item self-report questionnaire has been shown to be both a reliable and valid measure of marital adjustment or satisfaction (Haynes, Follingstad, & Sullivan, 1979; Kimmel & Van der Veen, 1974). It has a split-half reliability of .90 and adequate content and concurrent validity, distinguishing clearly in a sample of 236 couples between those judged to be exceptionally well-adjusted by their friends and those judged to be distressed (Locke and Wallace, 1959). The items have differential weights, and a total score is obtained by summing points obtained on each item. Those individuals scoring 100 or greater out of a possible 158 points are considered to be well-adjusted, whereas those scoring 99 or less are considered to be maladjusted.

Apparatus

Couples interacted using a specially designed "talk table" (cf. Gottman et al., 1976). The talk table is a double-sloping table with a toggle switch on the top, which was operated by the couple to indicate who had the "floor" to speak by lighting a button on top of the table on that person's side. There is a panel on each end of the table with two sets of five buttons for each person. The five buttons on each person's left, which are white and labeled "message sent", were used by the speaker to code the "intended impact" of his or her message. Similarly, the five buttons on the person's right, which are black and labeled "message

received", were used by the listener to code the "perceived impact" of the message received. One of two lights was always lit on each person's panel signaling which set of buttons he/she should have been using at any given time. These lights were controlled by the toggle switch on top of the table, which was also used by the couple to switch the "floor." The buttons in each set were labeled, "very negative", "negative", "neutral", "positive", and "very positive".

The talk table did not seriously constrain the behavioral repertoire of the dyad, although it is constructed so that only one person could speak at any given time. Although the partners were able to see each other, the buttons of each were blocked from view of the other person, so that neither partner was able to see the codes assigned by their spouse throughout the study. All of the codes were simultaneously recorded into a data file on computer for storage and analysis. In addition, 30 minutes of each session were videotaped for future content analysis.

The study took place in a room equipped with a one-way mirror, with an attached observation room, which allowed the couple to interact with neither people nor cameras present.

Procedure

Prior to their participation in the study, levels of depression were assessed in the psychiatric patients in individual assessment sessions. If the couple was being treated in conjoint therapy, each of the spouses was assessed individually. Patients were then requested to complete the BDI-SF, were interviewed and assessed by a clinical psychology doctoral student on the DSM-III

criteria, and were rated on the HRSD and the GAS. Patients were assigned to the appropriate groups according to the criteria outlined earlier. All screening sessions took place within one week of the patients' participation in the study.

Couples participated in two testing sessions: the first within one week of the assessment session, and the second eight to twelve weeks following the first session. The procedure was identical for both sessions, and for couples in all groups. Upon arrival, spouses were seated in different rooms on either side of a central observation room. They were then requested to sign consent forms agreeing to their participation in the study (see Appendix F), and to complete a number of questionnaires. Couples completed the BDI-SF, assessing their level of depression at the time of testing, the MAT, assessing their level of marital satisfaction, and the Primary Communication Inventory (PCI; Locke Sabagh, & Thomes, 1956; see Appendix G).

The PCI is a 25-item self-report inventory designed to measure communication skills in marriage. Nine items, which involve making judgments about the spouse, are transposed from the partner's questionnaire for scoring. In addition to a total score for each individual, the PCI yields subscores for verbal and nonverbal communication skills. The PCI has been found to reliably discriminate distressed from nondistressed marriages (Beach & Arias, 1983; Kahn, 1970; Narvan, 1967), and, in addition, has been used to assess individuals' perceptions of their communicative ability and their spouses' perception of that ability. In order to examine the discrepancy between self- and spouse-perceptions of

each spouse's communicative ability, Beach and Arias calculated a perceptual discrepancy score by subtracting the second factor score from the first. Nondistressed couples were found to have greater discrepancy scores, suggesting that nondistressed individuals may perceive themselves more positively than their spouses perceive them. The present study assessed differences for verbal and nonverbal dimensions, as well as self perceptions, spouse perceptions, and the discrepancy between the two. Couples also completed a Problem Inventory (see Appendix H), identifying perceived areas of difficulty or disagreement in their marriages.

Following completion of these questionnaires, the couples were brought together into the same room and were seated at either end of the talk table. Instructions for use of the talk table were given as follows:

> This table is called a "talk table". It is used to code the intent and perception of messages you send and receive. On the top, you will notice a toggle switch. This switch is used to indicate who has the floor to speak. As it is switched, one of the two lights on top will switch on. Only that person whose light is lit on their end of the table may speak at any given time. On each side of the table you will notice ten buttons-5 black and 5 white. You will be using the five white buttons to code the messages you send and the 5 black buttons to code the messages you receive. As well, there are two lights on each side of the table to indicate which set of buttons you should be using at any given time. You will always be using the set of buttons which has the light on underneath. Each set of buttons ranges from "very negative" to "very positive". You will be using these buttons to code how you intend messages to be taken and also how you receive messages from your spouse. You will not be coding whether or not you agree or disagree, but rather, how you feel about the messages you send and receive. You will code then, not only the content of the message, that is, what the person says, but also how they say it, which includes such things as tone of voice, facial expressions, etc.

> Thus, you may disagree and still code a message anywhere from "very negative" to "very positive". For example, you might say, "That's a good point, but I see it more this way", which would likely be coded as "positive" or "very positive". Or you might say something like, "You stupid idiot! What a ridiculous thing to say!", which would probably be coded "negative" or very negative". In both cases there is a disagreement, but the way in which those involved disagree is clearly different. Thus, it is more the feeling behind the message and how you feel about the messages received that is being coded, rather than what is actually being said.
>
> So, what you will do is speak to each other, coding all of your messages as you are talking. The person with the floor will speak first, then code on their white buttons how they felt about the message they sent. Then the other person will code on their black buttons how they felt about the message they received. Then you will switch the floor by flipping the toggle switch and the other person will respond. It's important to remember that every message must be coded once by both of you and that you may only speak when you have the floor. Are there any questions?
>
> Now, before you start, I would like you to practice using the table for a few minutes, so you can get used to how it works. Talk about anything you want. You might want to talk about what kind of day you had, your plans for the weekend or anything at all. I would just request that you not discuss any of the questionnaire material at this time. I'll remain in the room until you get used to using the table. Any questions?

Each couple was then allowed to converse for five minutes, or until they indicated that they are comfortable with the use of the talk table. Couples were then instructed to complete a low-conflict conversational task involving the use of Fun Deck activities (Gottman, 1979; see Appendix I). This task required the couple to read through a list of enjoyable couple activities and to then discuss some of those activities while coding their messages on the talk table. The following instructions were given to the couple:

> Here is a list of activities which couples often

> enjoy doing together. I'd like you to look through this list and select some activities which you enjoy as a couple that you might like to talk about. You could reminisce, or plan or talk about the activities any way you like. Try to have an enjoyable conversation. You will have 15 minutes and may talk about as few or as many of these things as you like, or about other activities which aren't on the list which you enjoy doing together. As you are talking, I would like you to code after every message and to only speak when you have the floor. Any questions?
>
> You may begin whenever you are ready. I will leave the room and return at the end of the 15 minutes.

The experimenter then left the room and entered the adjoining observation room. The couples' ongoing interaction was videotaped. While the couple was interacting, the experimenter reviewed their Problem Inventories and selected the five areas that they jointly identified as being the most conflictual. When the 15 minutes had expired, the experimenter returned to the testing room.

Following the use of the talk-table, couples were asked to provide estimates of the percentages of a) their own messages that they coded as positive or very positive; b) their spouse's messages that they coded as positive or very positive; c) their own messages that they coded as negative or very negative; d) their spouse's messages that they coded as negative or very negative; e) their messages that their spouse coded as they intended; and f) their spouse's messages they coded as their spouse intended (see Appendix J). Participants were also asked to respond on a nine-point scale indicating how good or poor they thought that communication was between them and their spouses.

At this point, the couples were given a list of those areas they identified as most conflictual, according to their Problem

Inventories. They were instructed to discuss any or all of these problem areas for 15 minutes, fully expressing their opinions and feelings surrounding the areas, and were encouraged to try to reach a resolution to these areas of disagreement. The experimenter then returned to the adjoining observation room.

The couples' interaction was videotaped from the observation room. When 15 minutes had expired, the experimenter returned and again separated the couple. Each partner then completed the Impact Message Inventory (IMI; Kiesler et al., 1976; see Appendix K). This questionnaire was designed to assess the cognitive, affective, and behavioral impact of one person on another during ongoing interactions (Perkins, Kiesler, Anchin, Chirico, Kyle, & Federman, 1979). The questionnaire is composed of subscales measuring the following 15 categories of interpersonal style: Dominant, Competitive, Hostile, Mistrustful, Detached, Inhibited, Submissive, Succorant, Abasive, Deferent, Agreeable, Nurturant, Affiliative, Socia le, and Exhibitionistic. The most conservative scoring of the IMI involves combining subscales that have been shown to be highly intercorrelated, to form four clusters. The four clusters are labeled as Dominant (Exhibitionistic + Dominant + Competiitive), Hostile (Hostile + Mistrusting + Detached), Submissive (Abasive + Submissive + Succorant) and Friendly (Agreeable + Nuturant + Affiliative). The remaining three scales (Inhibited, Deferent, Sociable) were scored separately. Each participant was asked to complete the IMI with respect to the preceding interaction with their spouse. Following completion of the IMI, couples were asked to sign a receipt for payment for their

involvement in the session (see Appendix L), and were informed that they would be contacted in eight to ten weeks to schedule their second session.

Following the second session, which was procedurally identical to the first, couples were fully debriefed and any questions were answered. Participants were requested to sign a receipt for payment for their involvement in the second session and, if they requested it, they were provided with written feedback concerning their performance.

Coding the Interactions

During the talk-table interactions, couples were responsible for the ongoing coding of the interaction. Videotaped recordings of these interactions were also coded by two observers, who were blind to the couples' experimental condition. The raters, who were psychology graduates, used the same scale as used by the couple, rating each message as very positive, positive, neutral, negative, or very negative with respect to the message's total impact. Kappa coefficients calculated on the talk table codes indicate a moderate degree of inter-rater reliability for positive, neutral and negative codes (coefficients of .68, .57 and .68 respectively). Reliability increases substantially when only positive and negative codes are included (both .81), indicating that most coding mismatches were a result of coding positive and negative messages as neutral, rather than coding positive messages as negative and vice versa.

Videotapes of the "free interaction" sessions were coded by two trained raters, both psychology graduates, using a slightly

modified version of the the Interaction Coding System (ICS; Halweg & Conrad, 1983; see Appendix M). The ICS was constructed to assess empirically both speaker and listener behaviors. The coding system used in the present study also included additional codes from the Couples Interaction Scoring System (CISS; Gottman, 1979; Halweg, Reisner, Kohli, Vollmer, Schindler, & Revenstorf, 1984). The CISS was designed to describe marital interactions, and has been shown to be quite reliable and valid in discriminating maritally distressed from nondistressed couples (Gottman, 1979; Gottman et al., 1977).

Essentially, all content codes from the ICS were retained, although self-disclosure was valenced to represent positive, neutral or negative self-disclosures rather than disclosures of wishes, thoughts or feelings. Furthermore, meta-communication was also valenced to positive, neutral or negative rather than tracking or clarification. Additional content codes included from the CISS were mindreading and non-specific plan, which was also valenced either positive or negative. Thus, the resulting coding system consisted of 31 separate content codes, which were collapsed to form 16 sub-categories, and then further reduced to form 3 summary categories (positive, neutral, negative), as recommended by Halweg and Conrad (1983).

Coders received a coding manual with a detailed explanation of each of the content codes, including several examples of each, and were trained in the use of the codes prior to coding the free interactions. The coding unit was the same as that used by the Couples Interaction Scoring System (CISS): the "thought unit",

which is ". . . most often a grammatical phrase, separated by pauses, commas, ands, buts, or periods." (Notarius & Markman, 1981, p. 121).

In addition to content codes for each thought unit, affect codes (assessing nonverbal behavior of the speaker and listener) were assigned from the videotapes, using the CISS. These nonverbal codes consisted simply of an overall rating of positive, neutral, or negative, based on cues obtained from observing the face, the voice, and the body of the speaker and of the listener (cf. Notarius & Markman, 1981). A sample of the coded tapes was selected at random and was recoded by another rater in order to assess the inter-rater reliability. Kappa coefficients calculated on the conflict discussion codes indicate a moderate degree of inter-rater reliability for positive, neutral and negative content codes (coefficients of .72, .63 and .66 respectively). Inter-rater reliability for the conflict discussion nonverbal codes was much higher. For the speaker, Kappa coefficients for positive, neutral and negative affect were .86, .84 and .80, and for the listener, .93, .92 and .86 respectively.

Results

Plan of Analyses

In general, the data from this study were analyzed using repeated measures multivariate analyses of variance (MANOVAs). Unless otherwise stated, the design included one between-subjects factor (diagnostic group) and two within-subjects, or repeated, factors (subject/spouse and session). A repeated-measures design was selected in order to assess subject and spouse differences across sessions. Multivariate analyses were used in order to control for the error rate of analyses with large numbers of related variables. Repeated measures MANOVAs were conducted using the BMDP-4V program, which uses a regression approach recommended by Kirk (1982) for designs with unequal cell sizes. In all cases, Wilk's criterion was used to determine the significance of the overall MANOVA. Univariate analyses were conducted following significant MANOVAs in order to assess which variables were contributing to the overall significance, and post-hoc Tukey-Kramer comparisons (for unequal cell sizes) were used to assess differences indicated by significant univariate analyses. Unless otherwise stated, the $p < .05$ level of significance was used in reporting differences. Finally, for demographic data and selection criteria measures, which were obtained only once, one-way MANOVAs (by group) were conducted and were followed up, if appropriate, by univariate analyses and post-hoc Tukey-Kramer comparisons.

Subject Characteristics

A total of 49 couples participated in this study. Three couples were dropped from the analyses because they failed to return for the second session. The identified subjects were predominantly female: in the depressed psychiatric group there were two males and eight females; in both nondepressed psychiatric groups there were two males and five females; and in the nondepressed, distressed nonpsychiatric group there were three males and seven females. Subjects in the nondistressed, nonpsychiatric group were matched with subjects in the depressed psychiatric group with respect to age, sex, and years married, resulting in two males and ten females in that group. Other subject characteristics were allowed to vary within the constraints of the subject selection criteria described earlier.

Subject Demographics. Group means and standard deviations are presented in Table 1 for the subjects' and spouses' ages, years of education, combined annual income, years married, number of children and weeks between sessions. A one-way MANOVA conducted on these variables was not significant, $F(32,127) = 1.39$, $p > .1$, indicating that the subjects in the five groups were comparable on these measures.

Insert Table 1 about here

Subject Selection Measures. The patients in the three psychiatric groups were assessed with the Beck Depression Inventory-Short Form (BDI-SC), the Hamilton Rating Scale for

Table 1

Group means and standard deviations on subject characteristics

Subject Characteristics	Group DD	PD	PND	CD	CND
	Mean S.D.	Mean S.D.	Mean S.D.	Mean S.D.	Mean S.D.
Subject's age	33.90 9.47	33.86 12.72	40.14 13.07	34.20 10.53	27.08 4.56
Spouse's age	36.60 9.70	39.14 15.36	43.86 15.16	34.10 8.77	26.83 2.04
Subject's education	12.90 1.45	13.71 2.36	12.71 3.25	14.30 3.68	15.00 2.98
Spouse's education	12.90 2.33	15.14 1.22	12.43 2.37	12.60 3.44	15.17 3.81
Years married	8.70 8.86	11.29 13.80	8.57 11.63	11.30 9.04	5.33 3.08
Number of children	1.60 1.26	1.86 1.35	2.43 1.90	2.30 1.06	1.42 1.16
Income(in thousands)	29.70 16.70	32.14 8.45	39.71 31.61	36.60 27.80	28.00 16.50
Weeks	9.90 1.45	9.86 1.57	9.29 2.14	9.90 1.10	9.17 .94

Note. DD= Depressed, distressed psychiatric patients; PD= Nondepressed, distressed psychiatric patients; PND= Nondepressed, nondistressed psychiatric patients; CD= Distressed nonpsychiatric subjects; CND= Nondistressed, nonpsychiatric subjects; Weeks= Weeks between sessions.

Depression (HRSD) and the Global Assessment Scale (GAS). Group means and standard deviations for these subject selection measures are presented in Table 2.

Insert Table 2 about here

The criteria used to assign subjects to groups ensured that no overlap existed between the depressed group and the two nondepressed psychiatric groups with respect to scores on the BDI-SC and the HRSD. A one-way MANOVA conducted on the screening measures revealed a main effect for group, $F(6,38) = 8.96$, $p < .0001$. Subsequent univariate analyses yielded group effects for both the BDI-SC, $F(2,21) = 12.99$, $p < .0002$, and the HRSD, $F(2,21) = 40.21$, $p < .0001$. As expected, Tukey-Kramer tests revealed that on both these measures, the depressed patients obtained significantly higher scores than did patients in the two nondepressed psychiatric groups, who did not differ significantly from each other. The univariate analysis for the GAS was not significant, $F(2,21) = 2.15$, $p > .1$, indicating that all three psychiatric groups were comparable with respect to general severity of psychiatric disorder.

All subjects and spouses also completed the Marital Adjustment Test (MAT) and the BDI-SF at both sessions. Group means and standard deviations for the MAT and means and standard deviations for the BDI-SF by session, subject/spouse, and group are presented in Table 3. A three-way ANOVA conducted on scores on the MAT yielded only a main effect for group, $F(4,41) = 17.87$, $p < .0001$.

Table 2

Group means and standard deviations on patient screening and selection criteria

	Group		
	DD	PD	PND
Selection Measures			
	Mean S.D.	Mean S.D.	Mean S.D.
BDISC	11.40a 3.41	4.57b 3.78	4.57b 2.20
HRSD	18.00a 3.56	6.57b 2.07	7.00b 2.94
GAS	48.30a 6.53	55.29a 7.87	52.71a 6.87

Note. DD= Depressed, distressed psychiatric group; PD= Nondepressed, distressed psychiatric group; PND= Nondepressed, nondistressed psychiatric group; BDISC= Patients' scores on the Beck Depression Inventory-Short form at screening; HRSD= Patients' scores on the Hamilton Rating Scale for Depression; GAS= Patients' scores on the Global Assessment Scale. Groups with the same subscripts do not differ significantly from each other.

There were no significant main effects for subject/spouse, $F(1,41) = 1.35$, or for session, $F(1,41) = .14$, both $ps > .1$, nor were there significant interactions for session by group, $F(4,41) < 1$, session by subject/spouse, $F(1,41) = 1.26$, group by subject/spouse, $F(4,41) = 1.54$, or group by session by subject/spouse, $F(4,41) = .17$, all $ps > .1$. Tukey-Kramer comparisons revealed that couples in the depressed group obtained lower scores on the MAT than did couples in the two nondistressed groups and in the nonpsychiatric distressed group. As well, couples in the two nondistressed groups obtained higher MAT scores than did couples in the three distressed groups. All of the means for the distressed groups were within the distressed range of the MAT, and the means for the nondistressed groups were within the nondistressed range.

Insert Table 3 about here

A repeated measures ANOVA conducted on scores on the BDI-SF yielded significant main effects for group, $F(4,41) = 8.42$, $p < .0001$, and for subject/spouse, $F(1,41) = 27.81$, $p < .0001$, as well as significant group by subject/spouse, $F(4,41) = 7.46$, $p < .0001$, and subject/spouse by session interactions, $F(1,41) = 11.06$, $p < .002$; neither the main effect for session, $F(1,41) = 2.30$, $p > .1$, nor the session by group interaction, $F(4,41) = 2.00$, $p > .1$, was significant. These significant effects were qualified, however, by the presence of a significant three-way interaction among group, subject/spouse, and session, $F(4,41) = 6.52$, $p < .0004$. This interaction was investigated by conducting two-way ANOVAs (group

Table 3

Means and standard deviations on the BDI-SF and MAT

	Group				
	DD	PD	PND	CD	CND
	Mean S.D.	Mean S.D.	Mean S.D.	Mean S.D.	Mean S.D.
MAT scores	76.18a 24.78	81.71ab 30.33	120.61c 15.21	91.03b 22.38	129.15c 14.33
BDI-SF scores					
SUBJECTS					
Session 1	11.20a 2.78	4.14b 3.53	4.00b 2.45	3.10b 2.42	1.92b 1.68
Session 2	5.50a 4.38	4.71a 3.09	3.29ab 3.77	2.70ab 1.83	1.00b 1.48
SPOUSES					
Session 1	3.10a 2.69	2.14a 1.22	2.03a 1.29	3.00a 1.70	1.17a 1.48
Session 2	3.80a 4.76	2.86ab 2.19	3.14ab 4.49	2.60ab 2.84	.33b .89

Note. DD= Depressed, distressed psychiatric group; PD= Nondepressed, distressed psychiatric group; PND= Nondepressed, nondistressed psychiatric group; CD= Distressed nonpsychiatric group; CND= Nondistressed, nonpsychiatric group; BDI-SF= Scores on the Beck Depression Inventory- Short Form; MAT= Scores on the Marital Adjustment Test. MAT scores are averaged over patient/spouse and over sessions. Groups with the same subscripts do not differ significantly from each other.

repeated over subject/spouse) for each session, and is presented graphically in Figure 1. For session one, the analysis revealed significant main effects for both group, $F(4,41) = 15.21$, $p < .0001$, and for subject/spouse, $F(1,41) = 40.27$, $p < .0001$, and a significant group by subject/spouse interaction, $F(4,41) = 14.04$, $p < .0001$. Paired t-tests comparing the subject and spouse scores for each group revealed a significant difference only for the depressed group, $t(9) = 7.89$, $p < .0001$, with the patients scoring higher than did the spouses. Results for the other four groups are as follows: for the nondepressed, distressed psychiatric group; $t(6) = 1.47$, $p > .1$, for the nondepressed, nondistressed psychiatric group; $t(6) = 2.05$, $p > .08$, for the distressed, nonpsychiatric group; $t(9) = .14$, $p > .1$, and for the nondistressed, nonpsychiatric group; $t(11) = 1.36$, $p > .1$.

Insert Figure 1 about here

Group differences for session one were investigated using separate one-way ANOVAs (BDI-SF by group) for both subjects and spouses. Significant group differences were revealed for the subjects, $F(4,41) = 21.16$, $p < .0001$, but not for the spouses, $F(4,41) = 2.10$, $p > .09$. Tukey-Kramer tests on the subject scores revealed that the depressed patients differed from subjects in the other four groups, who did not differ from each other. Thus, the scores of the depressed patients account for both the subject/spouse and group differences in session one.

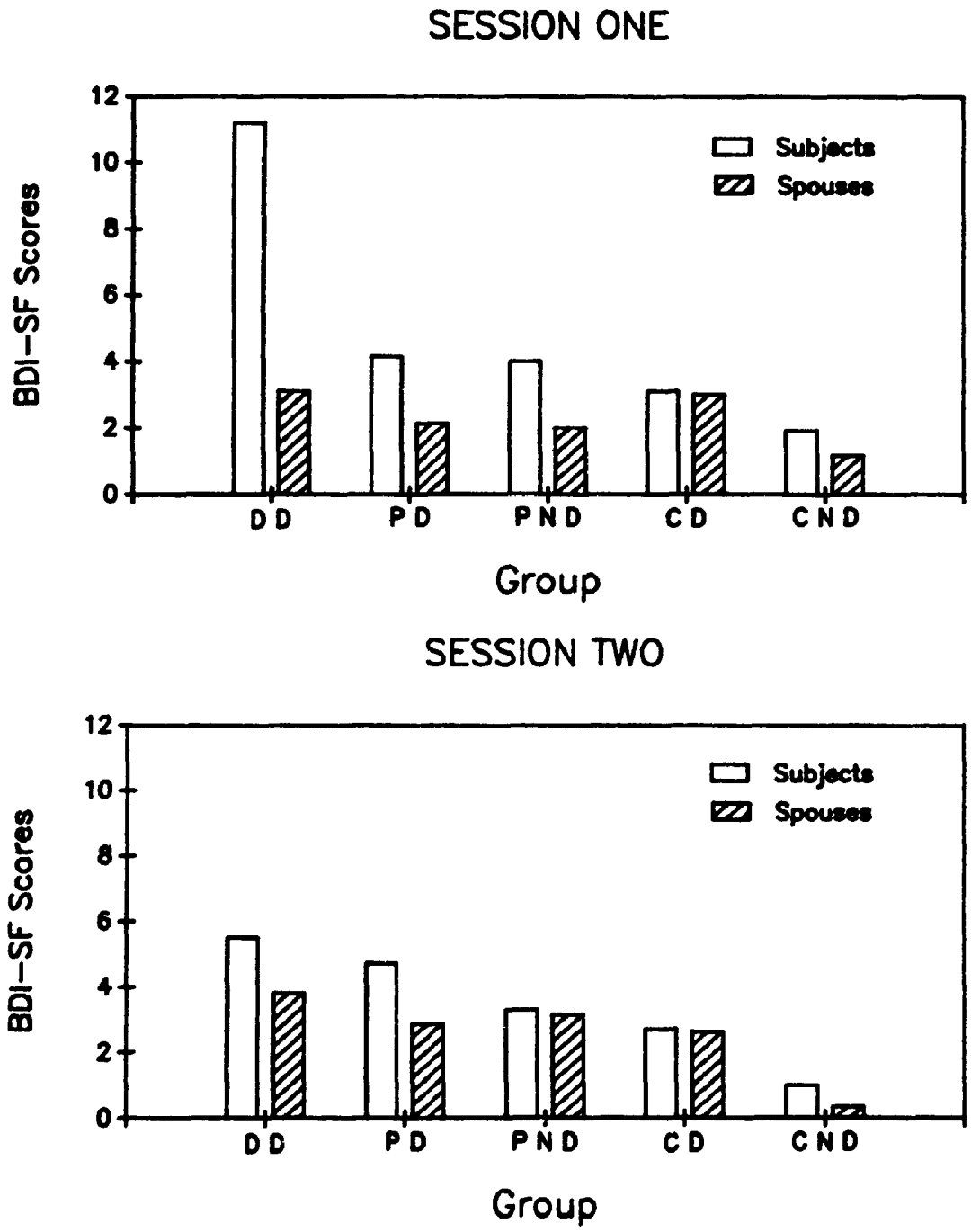
For session two, the two-way ANOVA revealed significant main

Figure 1

Group by subject/spouse by session interaction

for the BDI-SF

Note. DD= Depressed, distressed psychiatric group; PD= Nondepressed, distressed psychiatric group; PND= Nondepressed, nondistressed psychiatric group; CD= Distressed nonpsychiatric group; CND= Nondistressed, nonpsychiatric group.


SESSION ONE
BDI-SF Scores
12
10
8
6
4
2
0
Subjects
Spouses
DD
PD
PND
CD
CND
Group
SESSION TWO
BDI-SF Scores
12
10
8
6
4
2
0
Subjects
Spouses
DD
PD
PND
CD
CND
Group

effects for both group, $F(4,41) = 3.11$, $p < .025$, and for subject/spouse, $F(1,41) = 4.39$, $p < .04$. The group by subject/spouse interaction was not significant, $F(4,41) = .75$, $p > .1$. Comparison of the subject (3.26) and spouse (2.39) BDI-SF means revealed that the subjects scored higher than did the spouses, although both were well within the nondepressed range on the BDI-SF. Tukey-Kramer comparisons evaluating the groups differences revealed that the subjects and spouses in the depressed group differed from those in the nondistressed, nonpsychiatric group, although the BDI-SF means of both groups fell within in the nondepressed range.

Predictions regarding sessional differences on the BDI-SF were made only for the depressed patients. A dependent t-test comparing the session one and session two BDI-SF scores for the depressed patients revealed that, as predicted, their scores decreased significantly over time, $t(9) = 4.48$, $p < .001$. In fact, the score of every depressed patient decreased from session one to session two. At session one, every depressed patient scored within the moderate range for depression, whereas at session two, seven of the ten depressed patients failed to meet the criterion level for depression used in this study. A dependent t-test was also conducted comparing session one and session two BDI-SF scores of the spouses of the nondistressed, nondepressed psychiatric patients, who showed the second largest difference in BDI-SF scores across sessions. The test was not significant, $t(6) < 1$, indicating that these subjects' BDI-SF scores failed to change over time. All of the other differences over sessions were smaller and

thus, it is unlikely that the BDI-SF scores differed significantly across sessions for any group other than the depressed patients.

In summary, it appears that the significant three-way interaction (group by subject/spouse by session) for the BDI-SF scores can be accounted for largely by the inflated scores of the depressed patients at session one. They are responsible for both the group by subject/spouse interaction at session one and for the significant difference across sessions. Though statistically significant differences were found at session two, the main effects for group and subject/spouse were not clinically significant since all scores were within the nondepressed range on the BDI-SF.

Primary Communication Inventory. Group means and standard deviations for the Primary Communication Inventory (PCI) sub-scales and discrepancy scores are presented in Table 4. The PCI perceptual discrepancy score (PCID) was calculated according to the formula presented by Beach and Arias (1983), that is, by subtracting twice the sum of the items on the spouse scale from the sum of the items on the self scale. A repeated measures MANOVA conducted on these scores revealed only a main effect for group, $F(16, 117) = 3.18$, $p < .001$; there were no significant main effects for session, $F(4,38) = 1.06$ or for subject/spouse, $F(4,38) < 1$, both $ps > .1$, and no significant interactions for session by group, $F(16,117) = 1.22$, subject/spouse by group, $F(16,117) = 1.02$, session by subject/spouse, $F(4,38) < 1$, or session by subject/spouse by group, $F(16,117) = 1.37$, all $ps < .1$. Subsequent univariate analyses revealed significant group differences on all of the PCI scales at the $p < .0001$ level, and the Discrepancy scale

Table 4

Group means and standard deviations on the Primary Communication Inventory

	Group				
	DD	PD	CD	PND	CND
PCI Scales					
	Mean S.D.	Mean S.D.	Mean S.D.	Mean S.D.	Mean S.D.
PCIV	58.83a 9.72	62.86ab 7.75	62.32b 6.75	71.14c 4.81	75.33d 6.53
PCIS	46.88a 8.16	51.36b 7.29	50.70b 4.92	57.46c 4.66	60.73d 5.73
PCINV	23.63a 3.23	25.54a 2.50	24.50a 2.70	25.64a 2.15	28.42b 4.79
PCISP	21.95a 4.41	23.53ab 3.80	22.82a 3.20	25.32b 2.68	28.10c 3.37
PCID	2.98a 6.04	4.29ab 3.76	5.05ab 5.40	6.82b 4.11	4.52ab 4.58

Note. DD= Depressed, distressed psychiatric group; PD= Nondepressed, distressed psychiatric group; PND= Nondepressed, nondistressed psychiatric group; CD= Distressed nonpsychiatric group; CND= Nondistressed, nonpsychiatric group; PCI= Primary Communication Inventory; PCIV= PCI verbal scale; PCINV= PCI nonverbal scale; PCIS= PCI self perception scale; PCISP= PCI spouse perception scale; PCID= PCI perceptual discrepancy scale. Groups with the same subscripts do not differ significantly from each other.

at the $p < .05$ level, all Fs with 4 and 179 degrees of freedom: verbal scale, $F = 35.82$; nonverbal scale, $F = 12.69$; self scale, $F = 32.38$; spouse scale, $F = 20.34$; and perceptual discrepancy score, $F = 2.60$.

Insert Table 4 about here

Supporting the depressive realism hypothesis, which predicted that depressed subjects would show a lower discrepancy than would nondepressed subjects, a Tukey-Kramer test on the PCID revealed that the couples in the depressed group showed a lower discrepancy than did nondistressed, psychiatric controls. Neither of these groups differed from any other. This finding provides some support for the depressed realism hypothesis. However, this finding is not purely depression-specific, because the depressed group fails to differ from the other distressed groups and from the nondistressed, nonpsychiatric group.

The results on the PCI scales provide partial support for both the additive and pathology hypotheses. Tukey-Kramer tests on the PCI scales for the verbal and self scores support an additive model. On the verbal scale, couples in the depressed group scored lower than did couples in the nonpsychiatric distressed group, who in turn scored lower than did couples in the two nondistressed groups; couples in the two psychiatric distressed groups did not differ significantly from each other. On the PCI self scale, Tukey-Kramer comparisons indicated that couples in the depressed group obtained lower scores than did couples in the other two

distressed groups, who in turn obtained lower scores than did couples in the two nondistressed groups. This pattern of results indicates that depression, marital distress, and general psychopathology contribute additively to low scores on these scales.

Supporting the pathology hypothesis, Tukey-Kramer tests on the PCI nonverbal scale revealed that couples in the nonpsychiatric, nondistressed group scored significantly higher than did couples in the other four groups, who did not differ from each other. In addition, on the PCI spouse scale, couples in the three distressed groups were found not to differ significantly from each other, nor did couples in the two nondepressed psychiatric groups differ significantly from each other. Finally, couples in the nonpsychiatric, nondistressed group obtained significantly higher scores than did couples in the other four groups. These results indicate that either marital distress or psychiatric illness is sufficient to result in lower nonverbal and spouse scores, but that the presence of both does not lead to cumulatively lower scores. This pattern of findings supports the pathology hypotheses, but contradicts the additive and depression hypotheses.

Impact Message Inventory. Group means and standard deviations for the Impact Message Inventory clusters and scales are presented in Table 5. A repeated measures MANOVA revealed a significant main effect for group, $F(28,128) = 1.91$, $p < .009$. There were no significant main effects for session, $F(7,35) = 1.73$ or for subject/spouse, $F(7,35) = 1.75$, both $ps > .1$, and no significant interactions: for session by group, $F(28,128) = 1.36$, p .1, for

Table 5

Group means and standard deviations on the Impact Message Inventory

	Group				
	DD	PD	CD	PND	CND
IMI Scales and Clusters	Mean S.D.	Mean S.D.	Mean S.D.	Mean S.D.	Mean S.D.
Friendly	13.95a 1.92	14.26a 1.98	13.81a 1.59	16.07b 1.61	15.79b 1.83
Dominant	10.83a 3.07	11.53a 3.12	10.20a 2.41	10.58a 3.08	8.45b 1.68
Hostile	11.77a 2.05	12.33a 2.16	11.33a 2.10	11.23a 2.86	9.75b 1.15
Submissive	11.41a 2.77	11.34ab 3.50	11.02ab 2.69	11.70a 3.28	10.07b 2.18
Inhibited	11.78a 3.56	11.79ab 2.78	10.43ab 3.09	9.96b 3.28	8.31b 2.60
Deferent	12.70a 2.90	12.68a 2.82	12.25a 2.60	15.04b 2.63	13.27a 2.42
Sociable	14.50a 3.36	14.18a 3.57	14.18a 2.69	16.54b 2.24	15.40ab 2.71

Note. DD= Depressed, distressed psychiatric group; PD= Nondepressed, distressed psychiatric group; CD= Distressed nonpsychiatric group; PND= Nondepressed, nondistressed psychiatric group; CND= Nondistressed, nonpsychiatric group. Groups with the same subscripts do not differ significantly from each other.

subject/spouse by group, $F(28,128) = 1.53$, $p > .06$, for session by subject/spouse, $F(7,35) < 1$, and for session by subject/spouse by group, $F(28,128) = 1.03$, both $ps > .1$. Subsequent univariate analyses, all with 4 and 179 degrees of freedom, yielded significant group differences for all four clusters and three individual IMI scales.

Insert Table 5 about here

The results on the IMI scales and clusters provide partial support for the distress, pathology and additive hypotheses. The results on the Friendly cluster provide strong support for the distress hypothesis, $F = 13.10$, $p < .0001$). Tukey-Kramer comparisons revealed that couples in the two nondistressed groups rated their partners as less frienuly than did couples in the three maritally distressed groups. These results indicate that marital distress alone is sufficient to yield higher scores, and that neither general psychopathology or depression further affect those scores. Thus, happily married individuals report that their spouses are more friendly and loving than do unhappily married individuals.

Providing support for the pathology hypothesis, the Tukey-Kramer tests on the Dominant, $F = 7.73$, $p < .0001$, and Hostile, $F = 10.71$, $p < .0001$, clusters revealed that couples in the nondistressed, nonpsychiatric group rated their partners lower than did couples in the other four groups, who did not differ significantly from each other. These results indicate that either

marital distress or general psychopathology is sufficient to inflate scores on these scales, although having both distress and psychopathology does not lead to a further elevation. Thus, happily married individuals describe their spouses as less dominant and less hostile than do couples with distressed or psychiatrically ill spouses. These findings support the general pathology hypothesis, and are consistent with the distress hypothesis, but contradict the additive and depression hypotheses.

The results on the Inhibited scale, $F = 9.10$, $p < .0001$, provide support for an additive model, and are consistent with the distress and pathology hypotheses. A Tukey-Kramer test conducted on the Inhibited scale revealed that subjects in the nondistressed, nonpsychiatric group rated their spouses as less inhibited than did subjects in the other four groups. As well, subjects in the nondistressed, nondepressed, psychiatric group rated their spouses lower than did subjects in the depressed group, although neither of these groups differed from the subjects in the two nondepressed, but distressed groups. Thus, either marital distress or psychopathology alone is sufficient to lead to inflated inhibition scores, and distress coupled with depression results in greater elevations than does nondepressed psychopathology alone.

The results of analyses on the Submissive cluster, $F = 3.16$, $p < .02$), and the Deferent, $F = 5.17$, $p < .006$, and Sociable, $F = 3.72$, $p < .006$, scales fail to support any of the stated hypotheses. Tukey-Kramer tests on the Submissive cluster revealed that couples in the nondistressed, nonpsychiatric group described their spouses as less submissive than did couples in either the

depressed or nondepressed, nondistressed psychiatric groups, although couples in all three of these groups failed to differ from couples in the other two groups. Similarly, Tukey-Kramer comparisons conducted on the Deferent and Sociable scales indicated that, with the exception of couples in the nondistressed, nondepressed psychiatric group, none of the couples in the other four groups differed from each other. On the Deferent scale, couples in the nondistressed, nondepressed psychiatric groups rated their partners as more deferent than did couples in the other four groups. Couples in the nondistressed, nondepressed psychiatric group also rated their partners as more sociable than did couples in the three distressed groups. Finally, couples in the nondistressed, nondepressed psychiatric group rated their partners as more exhibitionistic than did couples in the nondistressed, nonpsychiatric group. Given that the depressed group, the distressed, nondepressed psychiatric group and the distressed, nonpsychiatric group failed to differ from the nondistressed, nonpsychiatric group on these scales, this pattern of results does not support any of the stated hypotheses.

In summary, the findings on the IMI scales and clusters provide mixed support for the distress, pathology and additive hypotheses. No support is provided for the depression hypothesis, as the couples in the depressed group were not found to differ from the nondepressed, distressed psychiatric couples or from the distressed, nonpsychiatric couples on any of the scales or clusters.

Talk Table Data

Post-interaction Questionnaire. A repeated measures MANOVA on the responses to the overall quality and responsibility for quality items on the post-interaction questionnaire revealed only a significant main effect for group, $F(12,103) = 2.39$, $p < .009$. There were no significant main effects for session, $F(3,39) < 1$, or for subject/spouse, $F(3,39) < 1$ and no significant interactions for session by group, $F(12,103) < 1$, subject/spouse by group, $F(12,103) < 1$, session by subject/spouse, $F(3,39) < 1$, or session by subject/spouse by group, $F(12,103) < 1$. Group means and standard deviations are presented in Table 6. Subsequent univariate analyses revealed a significant effect for quality, $F(4,179) = 7.87$, $p < .0001$, but not for responsibility, $F(4,179) = 1.92$, $p > .1$. A Tukey-Kramer post-hoc test revealed that the nondistressed, nonpsychiatric couples rated the quality of their interaction as higher than did couples in the three distressed groups. This finding indicates that distress alone leads to a lower subjective evaluation of the quality of interaction, and therefore supports the distress hypothesis.

Insert Table 6 about here

Proportions. Participants and the observer coded all statements during the fun deck discussion as very positive, positive, neutral, negative, or very negative. One-way ANOVAs conducted on the extreme scores revealed that the groups did not differ significantly on their percentages of endorsements in each

Table 6

Group means and standard deviations on the Post-Interaction Questionnaire

	Group				
	DD	PD	CD	PND	CND
Post-Interaction Questionnaire Items					
	Mean S.D.	Mean S.D.	Mean S.D.	Mean S.D.	Mean S.D.
Quality	5.88a 2.53	5.93a 2.24	6.40a 1.71	7.07ab 1.88	7.83b 1.00
Responsibility	2.60a .74	2.93a .26	2.75a .67	2.82a .48	2.93a .44

Note. DD= Depressed, distressed psychiatric group; PD= Nondepressed, distressed psychiatric group; CD= Distressed nonpsychiatric group; PND= Nondepressed, nondistressed psychiatric group; CND= Nondistressed, nonpsychiatric group. Groups with the same subscripts do not differ significantly from each other.

of these categories (subjects: very positive, $\underline{F} < 1$; very negative, $\underline{F} < 1$; spouses: very positive, $\underline{F} = 1.18$; very negative, $\underline{F} = 1.40$; all $\underline{F}$s with 4 and 41 degrees of freedom and all $\underline{p}$s $> .1$). In addition, the frequencies with which the extreme categories were used were very low. For these reasons, in the analyses that follow, positive and very positive codes are combined to yield an overall positive code, and negative and very negative codes are combined to yield an overall negative code. Percentages of talk table codes that were positive and negative were analyzed using separate repeated measures MANOVAs for subject intents and spouse intents. In each analysis, positive and negative percentages were analyzed for differences across groups, repeated over session and repeated over source of coding (subject intent, spouse perception, observer perception, subject estimate, spouse estimate) for the subject data and for the spouse data (spouse intent, subject perception, observer perception, spouse estimate, subject estimate). Source of coding means and standard deviations for subject and spouse positive and negative intents are presented in Table 7.

Insert Table 7 about here

For both the subject and spouse intents, the MANOVAs revealed a significant main effect for coding source: subjects, $\underline{F}(8,34) = 5.45$, $\underline{p} < .0002$; spouses, $\underline{F}(8,34) = 6.32$, $\underline{p} < .0001$. There were no significant main effects for subjects' intents for session, $\underline{F}(2,40) < 1$, or group, $\underline{F}(8,80) = 1.39$, and no significant interactions for

Table 7

Source means and standard deviations on the Talk Table Proportions

	Source				
	Self	SEst	Spouse	SpEst	Obsvr
Talk Table Measures					
	Mean S.D.	Mean S.D.	Mean S.D.	Mean S.D.	Mean S.D.
Subject Intents					
Positive	68.22a 22.29	63.50ab 27.74	57.32b 23.47	59.25b 28.16	46.27c 25.09
Negative	12.75a 14.91	15.26a 18.52	18.77a 16.40	16.26a 17.55	25.47b 19.94
	Self	SEst	Subject	SuEst	Obsvr
Spouse Intents					
Positive	56.29ab 24.19	60.87b 28.77	69.93c 22.00	61.13b 26.69	49.13a 25.13
Negative	20.63ac 20.01	17.85ac 21.57	9.83b 11.99	14.46ab 16.03	22.89c 18.85

Note. Self= Actual proportion of intents coded; SEst= Estimated proportion of intents coded; Spouse= Actual proportion of perceptions coded by the spouse; SpEst= Estimated proportion of perceptions coded by the spouse; Obsvr= Actual proportion of perceptions coded by the observer; Subject= Actual proportion of perceptions coded by the subjects; SuEst= Estimated proportion of perceptions coded by the subject. "Positive" includes both positive and very positive codes; "Negative" includes both negative and very negative codes. Groups with the same subscripts do not differ significantly from each other.

session by group, $F(8,80) = 1.48$, source by group, $F(32,127) < 1$, session by source, $F(8,34) = 1.08$, or session by source by group, $F(32,127) < 1$, all $ps > .1$. For spouses' intents, there were no significant main effects for session, $F(2,40) = 2.32$, or group, $F(8,80) = 1.19$, and no significant interactions for session by group, $F(8,80) = 1.25$, source by group, $F(32,127) = 1.40$, session by source, $F(8,34) = 1.20$, or session by source by group, $F(32,127) < 1$, all $ps > .1$. Subsequent univariate analyses revealed significant source effects for the subjects' intents for both the positive percentage, $F(4,455) = 9.59$, $p < .0001$, and the negative percentage, $F(4,455) = 7.02$, $p < .0001$, and for the spouses' intents for both the positive percentage, $F(4,455) = 8.21$, $p < .0001$, and the negative percentage, $F(4,455) = 7.54$, $p < .0001$. Tukey-Kramer post-hoc tests for the subjects' positive intents showed that the subjects' actual percentage was higher than the spouses' actual or estimated percentages, which did not differ from each other or from the subjects' estimates. In addition, the subjects' estimated positive percentage did not differ from their actual percentage, indicating that subjects in all five groups showed accurate recall of their positive coding. Finally, all four of these percentages were significantly higher than was the observer's positive percentage. For the subjects' negative intents, Tukey-Kramer tests revealed that the observer coded a higher percentage of messages as negative than did the other four sources, which did not differ significantly from each other. Again, subjects in all groups show accurate recall of their coding and on both measures the observer coded more negatively than did

either the subjects or their spouses.

Tukey-Kramer tests for the spouses' positive intents revealed that while the spouses' actual percentages did not differ from either the observer's percentage or from the self or subject estimates, the observer coded a significantly lower percentage of positive intents than the subjects or spouses estimated or than the subjects coded. In addition, the subjects coded a significantly higher percentage than they estimated coding, or than the spouses or observer coded or estimated. For the negative spouse intents, the observer coded a significantly higher percentage than the subjects coded or estimated, but did not differ from the spouses actual or estimated percentages. As well, the spouses' percentage of actual negative intents did not differ from either the self or subject estimates. However, the subjects' percentage of negative messages was significantly lower than the observer's or spouses' actual or estimated percentages, although the subjects' actual coding did not differ from their own estimates. These findings indicate that the spouses in all groups recalled their coding accurately, that the observer's coding reflected the spouses' actual coding, and that the subjects perceived their spouses as more positive and less negative than they actually intended. Subjects recalled their negative percentages accurately, but underestimated their positive coding.

Concordance. Concordance was defined as an exact match between subject intent and spouse perception (subject concordance) or spouse intent with subject perception (spouse concordance). Here, the positive and very positive codes and negative and very

negative codes were not collapsed together as they were in the previous analyses, for two reasons. First, the concordance measures were intended to reflect exact accuracy between intent and perception, including the fine distinctions between levels of positivity and negativity. Second, the measures used here should be comparable to the participants' measure of concordance, which were estimations of exact matches. A repeated measures MANOVA for subject and spouse concordance by group repeated over sessions and repeated over source (actual concordance, self estimate, spouse estimate), yielded main effects for both group, $F(8,80) = 2.04$, $p < .05$, and source, $F(4,38) = 44.38$, $p < .0001$. There were no significant main effects for session, $F(2,40) < 1$, and no significant interactions for session by group, $F(8,80) = 1.46$, source by group, $F(16,117) = 1.00$, session by source, $F(4,38) < 1$, or session by source by group, $F(16,117) = 1.10$, all $ps > .1$.

Group means and standard deviations for the two measures of concordance are presented in Table 8. Univariate analyses revealed significant group differences for spouse concordance, $F(4,271) = 3.99$, $p < .004$, but not for subject concordance, $F(4,271) = 1.92$, $p > .1$. Tukey-Kramer comparisons revealed that the depressed group demonstrated lower spouse concordance than did the two nonpsychiatric groups, but did not differ from the other two psychiatric groups. Thus, depression appears to be a necessary condition to result in lowered concordance. In addition, the messages being sent by the spouses of depressed subjects appear to be the most ambiguous, given the decreased levels of concordance for this group.

Table 8

Group means and standard deviations on the Talk Table Concordance

	Group				
	DD	PD	PND	CD	CND
Concordance Measures					
	Mean S.D.	Mean S.D.	Mean S.D.	Mean S.D.	Mean S.D.
SUCONC	53.83a 25.97	60.24a 24.39	58.07a 27.30	60.62a 24.63	65.71a 23.50
SPCONC	49.69a 25.72	55.92ab 25.16	58.12ab 24.20	64.32b 23.40	65.00b 25.84

Note. DD= Depressed, distressed psychiatric group; PD= Nondepressed, distressed psychiatric group; PND= Nondepressed, nondistressed psychiatric group; CD= Distressed nonpsychiatric group; CND= Nondistressed, nonpsychiatric group; SUCONC= Subject speaker concordance; SPCONC= Spouse speaker concordance. Groups with the same subscripts do not differ significantly from each other.

Insert Table 8 about here

Source means and standard deviations are presented in Table 9. Univariate analyses conducted on the source effect revealed significant differences for both subject concordance, $F(2,273) = 53.99$, and spouse concordance, $F(2,273) = 56.89$, both $ps < .0001$. For both measures, Tukey-Kramer tests revealed that the actual concordance was significantly lower than were either the self or spouse estimates of concordance, which did not differ from each other. Thus, both subjects and spouses in all groups overestimated their concordance.

Insert Table 9 about here

Conflict Discussion

Proportions: Content. A repeated measures MANOVA was conducted on broad groupings of the proportions of positive, neutral and negative content statements emitted during the conflict discussion. Group means and standard deviations for these three groupings are presented in Table 10. The MANOVA revealed no significant main effects or interactions (group: $F(12,103) < 1$; session: $F(3,39) = 2.58$; subject/spouse: $F(3,39) < 1$; session by group: $F(12,103) = 1.25$; subject/spouse by group: $F(12,103) < 1$; session by subject/spouse: $F(3,39) < 1$; session by subject/spouse by group: $F(12,103) = 1.13$; all $ps > .05$). These findings indicate, first, that the five groups did not differ significantly

Table 9

Source means and standard deviations on the Talk Table Concordance

Concordance Measures	Source		
	Actual	SEst	SpEst
	Mean S.D.	Mean S.D.	Mean S.D.
SUCONC	41.30a 15.33	71.79b 23.22	66.99b 24.50
SPCONC	39.62a 17.42	69.86b 22.84	67.80b 23.67

Note. Actual= Actual percentage of exact matches of intent and perception; SEst= Self estimate of exact matches; SpEst= Spouse estimate of exact matches; SUCONC= Subject speaker concordance; SPCONC= Spouse speaker concordance. Groups with the same subscripts do not differ significantly from each other.

LIST OF TABLES

Table 10

Group means and standard deviations on the Conflict Discussion Proportions for Content

Content Measures	Group DD	PD	PND	CD	CND
	Mean S.D.	Mean S.D.	Mean S.D.	Mean S.D.	Mean S.D.
Positive	27.47 11.53	24.83 8.36	28.04 12.12	26.37 13.05	28.64 10.41
Neutral	43.35 9.76	43.37 15.08	42.28 9.60	48.86 15.75	48.86 11.41
Negative	29.18 12.39	31.70 14.07	29.68 13.30	24.79 11.48	22.50 8.57

Note. DD= Depressed, distressed psychiatric group; PD= Nondepressed, distressed psychiatric group; PND= Nondepressed, nondistressed psychiatric group; CD= Distressed nonpsychiatric group; CND= Nondistressed, nonpsychiatric group. No groups differ significantly from each other.

with respect to the proportions of their statements that were of positive, neutral, or negative content, second, that these proportions were similar for both subjects and spouses, and finally, that the proportions were stable from session one to session two.

Insert Table 10 about here

Proportions: Affect. Repeated measures MANOVAs were conducted on the proportions of positive, neutral, and negative nonverbal codes, or affect, of both the speaker and the listener during the conflict discussion. The analysis on the speaker affect revealed significant main effects for both session, $F(3,39) = 3.29$, $p < .05$, and group, $F(12, 103) = 3.0$, $p < .001$; there was no significant main effect for subject/spouse, $F(3,39) < 1$, and there were no significant interactions for session by group, $F(12,103) < 1$, subject/spouse by group, $F(12,103) < 1$, session by subject/spouse, $F(3,39) < 1$, or session by subject/spouse by group, $F(12,103) = 1.21$, all $ps > .1$. Subsequent univariate analyses on the effect for session yielded significant differences for positive affect, $F(1,41) = 7.0$, $p < .01$, and neutral affect, $F(1,41) = 8.33$, $p < .006$; the effect for negative affect was not significant, $F(1,41) < 1$, $p > .1$. The means and standard deviations for positive affect for sessions one and two, respectively, were 34.40 (SD = 26.42) and 25.21 (SD = 21.15); for neutral affect they were 53.03 (SD = 22.60) and 63.62 (SD = 20.05). Thus, speakers showed a higher proportion of positive affect and a lower proportion of neutral affect in

session one than in session two.

Group means and standard deviations for the speaker affect are presented in Table 11. Univariate analyses revealed significant group differences for positive affect, $F(4,179) = 17.37$, $p < .0001$, neutral affect, $F(4,179) = 10.18$, $p < .0001$, and negative affect, $F(4,179) = 5.36$, $p < .0004$. Tukey-Kramer tests revealed that couples in the nondistressed, nonpsychiatric group showed a significantly higher proportion of positive affect and a lower proportion of neutral affect than did speakers in the other four groups, who did not differ from each other. The couples in the nondistressed, nonpsychiatric group also showed a lower proportion of negative affect than did couples in either nondepressed psychiatric group, but did not differ significantly from couples in either the depressed or the nonpsychiatric distressed groups. This pattern of results indicates that higher proportions of negative and neutral and lower proportions of positive nonverbal behavior are related to both marital distress and psychopathology.

Insert Table 11 about here

A repeated measures MANOVA conducted on the listener affect yielded a significant main effect for group, $F(12,103) = 3.16$, $p < .001$. There were no significant main effects for session, $F(3,39) = 2.14$, $p > .1$, or subject/spouse, $F(3,39) < 1$, and no significant interactions for session by group, subject/spouse by group, session by subject/spouse, or session by subject/spouse by group, all

Table 11

Group means and standard deviations on the Conflict Discussion Proportions for Speaker Affect

Affect Measures	Group DD	PD	PND	CD	CND
	Mean S.D.	Mean S.D.	Mean S.D.	Mean S.D.	Mean S.D.
Positive	21.58a 17.66	20.38a 15.58	26.84a 22.55	21.14a 16.83	51.11b 27.05
Neutral	65.95a 17.57	59.57a 18.93	57.80a 16.67	67.82a 19.34	43.63b 24.43
Negative	12.46ab 13.84	20.05a 19.56	15.36a 17.23	11.04ab 14.29	5.26b 7.34

Note. DD= Depressed, distressed psychiatric group; PD= Nondepressed, distressed psychiatric group; PND= Nondepressed, nondistressed psychiatric group; CD= Distressed nonpsychiatric group; CND= Nondistressed, nonpsychiatric group. Groups with the same subscripts do not differ significantly from each other.

Fs(12,103) < 1. Group means and standard deviations for listener affect are presented in Table 12. Subsequent univariate analyses revealed significant group differences for positive listener affect, *F*(4,179) = 19.98, neutral listener affect, *F*(4,179) = 12.51, and negative listener affect, *F*(4,179) = 7.09, all *ps* < .0001. Reflecting the results for speaker affect, Tukey-Kramer tests revealed that couples in the nondistressed, nonpsychiatric group showed higher proportions of positive and lower proportions of neutral affect then did couples in the other four groups, who did not differ significantly from each other. Furthermore, couples in the noncepressed, distressed psychiatric group demonstrated a higher proportion of negative listener affect than did couples in the other four groups, who did not differ from each other. These results suggest that lower levels of positive listener affect are related to both marital distress and psychopathology, whereas higher levels of negative listener affect seem to be associated with the presence of nondepressed psychopathology in combination with marital distress.

Insert Table 12 about here

Speaker Content/Affect Congruence. The proportions of positive content codes accompanied by positive, neutral and negative nonverbal speaker codes, the proportions of neutral content codes accompanied by positive, neutral and negative nonverbal speaker codes, and the proportions of negative content codes accompanied by positive, neutral and negative nonverbal

Table 12

Group means and standard deviations on the Conflict Discussion Proportions for Listener Affect

Affect Measures	Group				
	DD	PD	PND	CD	CND
	Mean S.D.	Mean S.D.	Mean S.D.	Mean S.D.	Mean S.D.
Positive	16.99a 18.45	15.08a 13.27	25.33a 22.99	17.20a 16.16	49.54b 28.71
Neutral	75.01a 18.06	66.94a 21.17	64.78a 17.46	75.82a 17.02	48.11b 27.68
Negative	8.00a 11.70	17.99b 21.73	9.89a 12.06	6.97a 10.46	2.34a 6.39

Note. DD= Depressed, distressed psychiatric group; PD= Nondepressed, distressed psychiatric group; PND= Nondepressed, nondistressed psychiatric group; CD= Distressed nonpsychiatric group; CND= Nondistressed, nonpsychiatric group. Groups with the same subscripts do not differ significantly from each other.

speaker codes were calculated. A repeated measures MANOVA was conducted on these nine variables. The MANOVA revealed a significant effect only for group, $F(36,125) = 1.84$, $p < .008$. There were no significant main effects for session, $F(9,33) = 1.47$, or subject/spouse, $F(9,33) = 1.37$, and no significant interactions for session by group, $F(36,125) < 1$, subject/spouse by group, $F(36,125) = 1.26$, session by subject/spouse, $F(9,33) < 1$, or session by subject/spouse by group, $F(36,125) < 1$, all $ps > .1$.

Group means and standard deviations for congruence scores are presented in Table 13. Univariate analyses on the group effect yielded significant differences for all nine variables, all with 4 and 179 degrees of freedom: positive content, positive affect, $F = 13.90$, $p < .0001$; positive content, neutral affect, $F = 11.34$, $p < .0001$; positive content, negative affect, $F = 4.83$, $p < .001$; neutral content, positive affect, $F = 14.78$, $p < .0001$; neutral content, neutral affect, $F = 10.59$, $p < .0001$; neutral content, negative affect, $F = 4.22$, $p < .003$; negative content, positive affect, $F = 16.39$, $p < .001$; negative content, neutral affect, $F = 4.91$, $p < .0009$; and negative content, negative affect, $F = 5.61$, $p < .0003$. Tukey-Kramer post-hoc comparisons revealed that couples in the nonpsychiatric, nondistressed group showed higher proportions of positive affect with positive, neutral and negative content, lower proportions of neutral affect with positive and neutral content, and lower proportions of negative affect with negative content, than did couples in the other four groups, who did not differ significantly from each other. The couples in the nonpsychiatric, nondistressed group also showed lower proportions

Table 13

Group means and standard deviations on the Conflict Discussion Speaker Content/Affect Congruence

	Group				
	DD	PD	CD	PND	CND
Congruence Measures	Mean S.D.	Mean S.D.	Mean S.D.	Mean S.D.	Mean S.D.
POSITIVE CONTENT					
Positive	27.25a	27.84a	29.46a	33.55a	59.26b
Affect	23.22	21.36	28.55	21.45	25.87
Neutral	67.42a	62.49a	66.14a	57.14a	38.96b
Affect	22.28	21.36	23.79	21.12	25.60
Negative	5.17ab	9.67a	4.41ab	9.30a	1.78b
Affect	7.30	11.23	15.54	7.72	3.57
NEUTRAL CONTENT					
Positive	22.29a	20.99a	19.75a	24.25a	50.56b
Affect	17.56	18.46	17.81	22.53	30.38
Neutral	69.76a	65.70a	72.50a	66.12a	45.95b
Affect	17.16	18.68	19.87	19.41	28.24
Negative	7.95ab	13.31a	7.75ab	9.62ab	3.50b
Affect	9.68	14.42	11.14	10.48	7.06
NEGATIVE CONTENT					
Positive	17.19a	15.08a	16.95a	25.13a	44.84b
Affect	15.20	13.56	16.85	24.24	26.07
Neutral	57.80a	48.36ab	60.36a	47.71ab	42.59b
Affect	20.25	21.46	20.17	25.46	21.71
Negative	25.01a	36.56a	22.74a	27.16a	12.57b
Affect	23.70	25.62	22.04	27.31	13.89

Note. DD= Depressed, distressed psychiatric group; PD= Nondepressed, distressed psychiatric group; PND= Nondepressed, nondistressed psychiatric group; CD= Distressed nonpsychiatric group; CND= Nondistressed, nonpsychiatric group. Groups with the same subscripts do not differ significantly from each other.

of negative affect with positive content than did couples in the two nondepressed psychiatric groups, although all three of these groups did not differ from the other two groups. Although it was previously reported that there were no significant group differences with respect to verbal content, the results here closely mirror the results found for nonverbal speaker affect and may simply reflect differences in base rates of speaker affect. Couples in the nondistressed, nonpsychiatric group showed a lower proportion of neutral content with negative affect than did couples in the nondepressed, distressed psychiatric group, although neither of these groups were found to differ from the other three. Finally, couples in the nondistressed, nonpsychiatric group showed a lower proportion of neutral affect with negative content than did couples in the depressed or nonpsychiatric distressed groups. Generally, these results indicate that both marital distress and psychopathology are associated with a greater discrepancy between content and affect for positive content messages, but a lower discrepancy for neutral and negative content messages.

Insert Table 13 about here

Discussion

In discussing the results of this study, findings will be organized with respect to the three major hypotheses presented in the introduction. Thus, results will be discussed as they relate to the stability of the effects over time, the consistency of the effects across raters (realism vs. distortion), and finally, the specificity of observed effects to depression and/or marital distress.

It should be noted at the outset that the groups did not differ demographically, nor did the psychiatric groups differ from one another with respect to the severity of their pathology as measured by the GAS. Thus, group differences cannot be attributed to these factors. Although group differences were obtained on the BDI-SF for the nondepressed groups, all four nondepressed groups nevertheless scored well within the nondepressed range, whereas patients in the depressed group differed from subjects in all other groups, and scored within the moderately depressed range at session one, and below criterion level at session two.

Stability of Effects

One of the most striking features of this study was the remarkable stability of the measures across time. Of the numerous dependent variables, only two showed any significant change over time: speaker affect and the BDI-SF. With respect to speaker affect (nonverbal behavior) during the conflict discussion, it was found that the subjects in all groups showed more positive and less neutral affect while speaking during session one than in session two. Given the lack of group differences, this result cannot be

related to depression, which also changed over time, but only for the depressed patients. Nor is it related to marital satisfaction, since the satisfaction of the subjects in all groups failed to show any change over time. One explanation for this finding may be related to the novelty of the situation in session one, with habituation by session two. Subjects may have been more interested and animated in session one and therefore appeared more positive. It is also possible that subjects were more concerned about making a good impression in the first session, especially since they knew they would be returning for a second session.

An alternative explanation for this finding may be that subjects become nonverbally less positive and more neutral the more often they discuss areas of conflict which remain unresolved. It is possible that it is fairly easy to tolerate disagreements initially and remain fairly positive. However, as the couple is required to further explore and discuss these conflicts in session two, it may be more difficult to stay positive when they realize that, even after a period of two months, the conflict has not been resolved.

As predicted, the BDI-SF scores of the depressed patients decreased over time. Indeed, the scores of every depressed patient decreased: at session two, seven of the ten patients had dropped below criterion level for depression in this study, and the mean BDI-SF score for the depressed patients had dropped from the mid-moderate range to the low-mild range for depression.

Based on previous research, it was predicted that the depressed patients would remain maritally distressed even after thei-

depression had alleviated. This position was supported in this study, since the marital satisfaction scores showed no significant changes over time despite changes in depression. Similar findings were reported by Bothwell and Weissman (1974), who found marital problems to persist for up to four years following a depressive episode, even during asymptomatic periods. Schless, Schwatz, Goetz, and Mendels (1974) also found depressed patients to show persistent vulnerability to marriage- and family-related stresses after recovery. Hinchliffe et al. (1978) reported continued high levels of tension and negative expressiveness in the marriages of depressed patients after discharge, and Weissman and Klerman (1973) reported that marital difficulties represented the most frequently discussed problem area by depressed women in maintenance therapy. Finally, in a study of psychiatric inpatients, Gotlib (1986) also reported that the marital satisfaction of female depressed patients remained low at discharge and at a six-month follow-up despite alleviation of depressive symptoms.

The present study adds support to the growing body of research which has found marital difficulties to persist after alleviation of depressive episodes. In addition, this study found that levels of marital distress or satisfaction in the absence of depression are also remarkably stable over a two month period, in the absence of intervention aimed at changing these levels. This finding suggests that without treatment, couples are likely to remain maritally distressed, whether or not they are depressed.

Finally, it was argued that if communication problems were merely a symptom of depression, they should improve as the

depression improved. Alternatively, if the communication measures were related to marital distress, they would remain stable over sessions, provided that the level of marital satisfaction remained unchanged. In fact, with the exception of speaker affect during the conflict discussion, none of the measures showed any significant change over time. Scores on the Primary Communication Inventory, the Impact Message Inventory, the talk table proportions and concordance, and the conflict discussion content codes, listener affect codes and content/affect congruence were remarkably stable over time. It seems therefore, that the communication features measured in this study are not simply concomitants of depression.

It is important to note that these findings are consistent with the hypothesis that the communication measures are related to marital distress, since both fail to change over time. Of course, it is possible for both Marital Adjustment Test scores and communication measures to be stable and yet not be related. If this were the case, group differences on these measures would be lacking, or would be related to depression or to general psychopathology. This issue will be addressed further under the discussion of specificity of observed effects.

In summary, both self-report and behavioral measures of marital communication, as well as marital satisfaction, were shown to be quite stable over a period of two months, despite a significant decrease in the depression scores of the depressed patients. These findings are consistent with many other studies of marital communication in couples with a depressed spouse and

provide growing support for the position that communication problems may be more strongly related to marital distress than to depression, and that studies investigating the marital interactions of depressives that have confounded depression and marital distress are particularly suspect, with respect to depression-specific interpretations.

Consistency Across Raters

The issue of consistency across raters was addressed by the proportions and concordance of talk table codes. For the positive and negative intents, proportions of actual codes were compared with perceptions by the spouse and observer, as well as self and spouse recalled proportions. None of the hypotheses concerning either depressive or distressed "realism" or "distortion" received equivocal support.

All of the subjects and spouses in the distressed groups, including the depressed patients, recalled both their positive and negative intents accurately (i.e., actual and recalled proportions did not differ), supporting the realism hypotheses. However, the nondistressed subjects and spouses also recalled their coding accurately, in contradiction to the realism hypotheses, which predicted that they would distort in a positive direction. The accuracy of the nondistressed subjects and spouses is consistent with the negative distortion hypotheses, which predicted that the nondistressed individuals would recall their coding accurately. In this study, all subjects and spouses were accurate in their recall of their coding, failing to show either positive or negative distortion and thus, the findings were unable to provide absolute

support for either the negative distortion or realism hypotheses.

The failure to find positive distortion may be related to the nature of the task. Being a low conflict discussion, the majority of statements were positive, resulting in a ceiling effect for positive distortion; ie. so many actual responses were positive that it would be difficult to recall significantly more positive responses than had actually occurred. However, this cannot explain the absence of negative distortion, rendering the negative distortion hypothesis as less tenable and providing stronger support for the realism hypothesis.

Subjects coded a higher proportion of their own messages as positive than their spouses perceived or recalled, and the spouses perceived and recalled a higher proportion of positive intents than did the observers. In addition, the observers perceived a higher proportion of messages as negative than either the subjects or spouses actually coded or recalled. Couples in all groups also showed positive Primary Communication Inventory - Discrepancy (PCID) scores, indicating that they rated their own communication skills as superior to their spouses. This pattern of results for the nondistressed groups supports the realism hypotheses, which predicted that the nondistressed, nondepressed subjects would recall more positive and fewer negative intents than would their spouses or the obse.vers. However, the results for the distressed groups contradict the realism hypothesis.

The results of the analyses on the spouses' intents also contradict the realism hypotheses, since the spouses coded a lower proportion of messages as positive and a higher proportion as

negative than did their partners. However, the fact that the spouses' coding did not differ from the observers' coding or from their own recalled estimates provides partial support for the negative distortion hypotheses, which predicted that the nondepressed, nondistressed subjects would recall their coding accurately and would not differ from the coding of the observers.

The talk table concordance results fail to provide convincing support for either the realism or distortion hypotheses. For both subject and spouse concordance, both the self and spouses in all groups were found to significantly overestimate concordance. This finding was predicted only for subjects in the nondistressed or nondepressed groups, according to the realism hypotheses. Depressed or distressed subjects were not expected to overestimate concordance according to either hypothesis. The results for the nondistressed, nondepressed subjects are largely consistent with other research that has found that nondepressed subjects tended to demonstrate a positively biased recall (Hoehn-Hyde, Schlottman, & Rush, 1982; Kowalik & Gotlib, 1987; Lewinsohn et al., 1980). Overall, these findings undermine those cognitive theories that posit that depressed individuals distort their world negatively. In fact, the tendency may be for both depressed and nondepressed individuals to distort positively on some measures. Given Gottman et al.'s (1976) suggestion that concordance is a measure of good communication or social skills, the overestimations of concordance for the nondepressed groups in this study can be viewed as consistent with Lewinsohn et al.'s (1980) finding that nondepressed individuals overrate their social skills. Hence, some support is

provided for the depressive realism hypothesis.

The results on the PCID scale also provided partial support for the depressive realism hypopthesis, given that the self-perceptions and perceptions of the spouse of the depressed group showed the lowest discrepancy and differed significantly from the nondistressed psychiatric group. However, this finding was not depression-specific, since couples in the depressed group failed to differ from the other three groups.

In summary, the analyses investigating consistency across raters fail to provide equivocal support for either the realism or distortion hypotheses. Rather than obtaining differences related to either depression or distress, differences seem to be more strongly related to the coder's perspective, with subjects rating themselves and their spouses more positively than did the spouses themselves or than did the observers, who tended to rate the subjects, but not the spouses, more harshly than they rated themselves. For the nondepressed subjects, this finding is consistent with Lewinsohn et al.'s (1980) theory concerning nondepressed subjects' "illusory glow." This explanation is particularly plausible for the subjects' positive intents because both the partner and the observers rated the subjects more harshly than they rated themselves. In addition, the finding that the subjects also rated their spouses' messages more positively and less negatively than did the observers or the spouses themselves, is consistent with research indicating a tendency to view intimates as better than average (Brown, 1986). This explanation for the subjects' tendency to distort in a positive direction is further

supported by the fact that the spouses' self-ratings failed to differ from the observer ratings, suggesting that the observers and spouses have rated the behavior accurately, but that their partners view it in a more favorable light.

An alternative explanation for the coder differences for the subjects' intents is suggested by Gotlib and Meltzer (1987), "... that the participants are accurate and the observers overly critical in their evaluations" (p. 51). Several studies of marital interaction also support this position. For example, Hawkins, Weisberg, and Ray (1977) reported that self-ratings of couples' behavior during marital interactions were more positive than were observer ratings. Floyd and Markman (1983) demonstrated that partner ratings were more positive than were observer ratings of marital interaction. In addition, Margolin, Hattem, John, and Yost (1985) reported that behaviors rated negatively by observers were likely to be assigned positive ratings by the couple themselves, regardless of their level of marital distress. Finally, Sabatelli, Buck, and Dreyer (1982) found spouses to be better decoders of their partners' behavior than were external observers. Indeed, the results of the present study strengthen the growing body of research concerning the accuracy of the participants and the excessive harshness of observers of marital interaction.

Given this situation, the ratings of external observers should be used only with caution in studies of this type, and clearly should not be accepted as an absolute measure of reality. Indeed, with respect to practical implications, the self-perceptions and the spouse-perceptions are likely to be much more critical in

determining the quality of marital interactions and influencing progress in therapy. These findings highlight the importance of considering marital interactions from multiple perspectives.

Specificity of Effects

The major purpose of this study was to investigate the specificity of observed differences in marital communication to either depression or to marital distress. In fact, there was very little evidence in this study to support either a depression-specificity model or an additive model in which depression contributed significantly to observed effects. For most of the effects, any type of pathology (marital distress, depression, nondepressed psychopathology) was sufficient to result in deviant scores on the communication measures. Some results were specific to marital distress, while some supported an additive model in which both distress and psychopathology contributed. Thus, support was obtained for the distress, pathology and the additive hypotheses.

Depression. In order to be considered depression-specific, it was predicted that the depressed patients would differ from their spouses and from the subjects and spouses in the other four groups, who would not differ from each other. None of the observed effects met these criteria. However, one measure came close. Subjects in the depressed group exhibited lower spouse concordance of talk table codes than did subjects in the two nonpsychiatric groups, although neither the depressed nor the nonpsychiatric groups differed from the two nondepressed psychiatric groups. This finding suggests that the messages that the spouses of depressives

are sending are difficult for the depressed patients to perceive accurately. This may be an encoding or decoding problem. That is, the messages sent may be unclear or the depressed patients may not be perceiving accurately due to a distorted negative bias. If it were a distorted negative perception on the part of the depressed patients, it would be expected that the depressed patients would code a higher proportion of their spouses messages as negative than would subjects in the other groups. This was not the case; groups failed to differ on both patient and spouse, negative and positive, intents and perceptions.

It is likely then, that the lower spouse concordance of the depressed group is due to the nature of the messages being sent. The low concordance indicates a difficulty in accurately perceiving messages, which suggests that the messages may be unclear or ambiguous. This explanation supports Coyne's (1976) interactional formulation of depression, which argues that the behavior of the depressed individual creates a negative social environment, including both supportive and hostile reactions from intimate others. Messages sent are intended to be positive or supportive, but may be perceived by the depressed person as negative. This explanation is also supported by Hinchliffe et al. (1978), who found incongruities between verbal messages and nonverbal qualities in the marital interactions of couples with a depressed spouse. Arkowitz et al. (1982) also found discrepancies between the verbal and nonverbal behavior of the spouses of depressives during interactions with their spouses. Similarly, Kahn et al. (1985) found that depressed couples were more likely than were

nondepressed couples to show negative nonverbal behavior, with an absence of differences in positive behavior, and Hautzinger et al. (1982) found that offers of help from spouses of depressed patients were combined with negative statements. It seems possible, therefore, that the spouses of the depressed patients in the present study are sending messages that may be intended to be positive, but include neutral or negative nonverbal behavior.

It is interesting to note, however, that the spouses of the depressed patients did not differ from subjects in the other pathology groups with respect to content/affect congruence during the conflict discussions, indicating that their messages were no more ambiguous than were those of the subjects in the other three pathology groups. The major difference between the talk table and conflict discussions was that there was a much higher proportion of positive content on the talk table task. It may be the case that communication is more likely to show disruptions during stressful discusssions, but that couples with a depressed spouse will show communication problems even under low stress conditions. In fact, studies of marital distress have shown that high conflict, relationship oriented discussions discrimminate best between distressed and nondistressed couples (Gottman et al., 1976; Gottman, 1979). It is not surprising, then, that during high conflict situations, all of the distressed groups showed disturbances, while under low conflict situations, only couples who are both distressed and depressed revealed deficits.

Marital Distress. The distress specificity hypothesis predicted that subjects in the three distressed groups would differ

from subjects in the two nondistressed groups, but not from each other. In addition, the two nondistressed groups would not be expected to differ from each other. One of the Impact Message Inventory (IMI) clusters met these criteria. Distressed subjects described their spouses as less Friendly (agreeable, nurturant, affiliative) than did nondistressed subjects. Further support for the distress hypothesis was provided by the results of reported quality of the talk-table interaction, with subjects in the distressed groups describing their interactions as lower in quality than did the nondistressed, nonpsychiatric subjects. These findings are consistent with the marital distress literature, which indicates that the interactions of distressed couples are generally more negative and of lower quality than are the interactions of nondistressed couples (e.g., Beach & Arias, 1983; Kahn, 1970; Narvan, 1967). Perhaps not surprisingly, differences that are specific to marital distress seem to be strongly related to issues of love and cooperation.

These findings present a challenge for studies examining the marital interaction studies of depressed persons that fail to control for marital distress. The findings on the IMI agreeable, nurturant, and affiliative scales (Friendly cluster), which Kahn et al. (1985) argued were specific to depression, were found in the present study to be characteristic of distress. Other depression studies that failed to control for marital distress may also be measuring the effects of distress rather than depression (cf. Arkowitz et al., 1982; Hinchliffe et al., 1975, 1978).

Pathology. The pathology hypothesis posited that observed

effects would be related to psychiatric status or marital distress. Thus, it predicted that subjects in the nondistressed, nonpsychiatric group would differ from subjects in the other four groups, who would not differ from each other. Several measures, both self-report and behavioral, met these criteria. Subjects in the nondistressed, nonpsychiatric group scored higher on the PCI nonverbal scale and described their spouses as less Dominant, and Hostile on the IMI clusters than did subjects in the other four groups. These findings suggest that nonverbal behavior is disrupted in couples experiencing some type of pathology. Furthermore, the particular traits that are affected appear to be related to feelings of inequality, hostility and mistrust between the spouses.

Behaviorally, the nondistressed, nonpsychiatric subjects exhibited higher proportions of both speaker and listener positive nonverbal behavior (affect) and lower proportions of speaker and listener neutral affect during the conflict discussion than did subjects in the other four groups. These findings are consistent with research from both the depression and marital distress areas, in which pathological couples have been found to exhibit low levels of positive nonverbal behavior (cf. Arkowitz et al., 1982; Birchler et al., 1975; Gottman, 1977; Hooley, 1986). These subjects also showed a high proportion of congruence between content and affect on positive messages, but lower congruence on neutral and negative messages during the conflict discussion. In addition, for both neutral and negative content messages, nondistressed, nonpsychiatric subjects were more likely to exhibit positive affect

than were subjects in the other four groups. As well, they were less likely to accompany positive content messages with neutral affect. Consistent with the present study, ambiguities between content and affect have been shown in several studies of marital interaction in couples with a depressed spouse (Arkowitz et al., 1982; Hautzinger et al., 1982; Hinchliffe et al., 1978; Kahn et al., 1985), and have also been shown to be characteristic of distressed marriages (Gottman, 1977; Gottman et al., 1976).

Additive Model. The additive model predicted that depression, marital distress and nondepressed psychopathology would contribute additively to maladaptive communication. The results from three of the four Primary Communication Inventory (PCI) scales support this model. On the Self, Spouse and Verbal scales of the PCI, either marital distress or psychopathology is sufficient to result in lower scores than for subjects in the nondistressed, nonpsychiatric group, and for each of these scales, distress results in significantly lower scores than does nondepressed pathology. Distressed, nondepressed psychiatric subjects and their spouses also score lower on two of the three scales (Self, Verbal) than do subjects who are nondistressed but psychiatric, indicating that marital distress contributes significantly beyond the effects of psychopathology alone. Finally, the depressed subjects and their spouses scored lower on two PCI scales (Self, Verbal) than did subjects who were experiencing only marital distress, and lower on the PCI Self scale than did subjects who were both distressed and were suffering from nondepressive psychopathology. Generally, these differences indicate that while psychiatric status alone is

sufficient to result in deflated PCI scores, marital distress alone or combined with nondepressed psychopathology leads to even greater reductions, while depression combined with distress results in even more serious deficits.

Results on the Inhibition IMI scale also provided support for an additive model. On this scale, both "distressed only" and nondepressed, nondistressed psychiatric subjects rated their spouses higher than did nondistressed, nonpsychiatric subjects. Distressed, depressed subjects and their partners rated their spouses as more inhibited than did nondepressed, nondistressed psychiatric subjects. Thus, both distress and psychopathology appear to contribute equally to elevated scores on the Inhibition subscale, and combining distress with psychopathology tends to lead to even greater elevations. This scale relates largely to issues of involvement or avoidance, and the findings are consistent with research showing less couple involvement in maritally distressed (Birchler & Webb, 1977) and depressed marriages (McLean et al., 1973; Monroe et al., 1986; Paykel & Weissman, 1973).

Nondepressed Psychopathology Specificity. Some unpredicted results were also obtained in this study, related to observed effects specific to either one or both of the nondepressed psychiatric groups. On the IMI, subjects in the nondistressed, nondepressed psychiatric group rated their spouses as more Deferent than did subjects in the other four groups and more Sociable than did subjects in the three distressed groups. In addition, subjects in both nondepressed psychiatric groups exhibited higher proportions of negative affect in the conflict discussion than did

subjects in the nondistressed, nonpsychiatric group. As well, subjects in the distressed, nondepressed psychiatric group also demonstrated a higher proportion of negative affect than did subjects in all other groups. Finally, subjects in the two nondepressed psychiatric groups exhibited higher proportions of positive content accompanied by negative affect than did subjects in the nondistressed, nonpsychiatric group, and the distressed, nondepressed psychiatric group showed higher proportions of neutral content accompanied by negative affect than did subjects in the nondistressed, nonpsychiatric group.

These results were unexpected, and are difficult to explain. In general, the responses of the nondepressed psychiatric subjects tended to be more extreme than were responses of the other subjects. It is possible that behaviors that were characterized as deferent and sociable by their partners were viewed as negative nonverbally by the observers. It is also possible that the nature of their psychiatric disturbance resulted in the observed differences. At least one study provides support for this conclusion. Kiesler and Federman (1978) found that, in contrast to descriptions of obsessive persons, descriptions of hysterics were rated higher on these IMI scales on which the nondepressed psychiatric subjects in the present study scored higher (Sociable and Deferent). It seems possible that the hysteric traits in the psychiatric groups in this study resulted in the observed differences. Generally, the diagnostic composition of the psychiatric groups was more hysteric than obsessive.

Summary and Conclusions

The present study examined self-report and behavioral measures of marital communication in couples with a depressed spouse during both symptomatic and less symptomatic periods. Inclusion of appropriate control groups allowed assessment of the specificity of effects to either depression or marital distress. Repeated measurements allowed assessment of the stability of effects. Finally, obtaining data from multiple perspectives (self, spouse, observer) allowed for the assessment of consistency across raters.

In summary, three major conclusions can be drawn with respect to this study: 1) both self-report and observed communication behaviors are remarkably stable over a period of two months, despite changes in depressive symptomatology; 2) participants recall their behavior quite accurately, although observers tend to rate behavior more harshly than do the participants; and 3) the findings of this study were not specific to depression, but rather, were related to marital distress or to general psychopathology. Furthermore, and consistent with previous research, groups were differentiated more by nonverbal than by verbal behavior (Arkowitz et al., 1982; Birchler et al., 1975; Gottman et al., 1977; Rubin, 1977), and more by high- than by low-conflict interactions (Gottman et al., 1976).

A number of interesting specific findings were also indicated. Different types of pathology seem to be related to different types of communication deficits. For example, the messages of the spouses of depressed individuals appear to be ambiguous (content and affect do not concur), and this appears to be more likely when

the spouse is intending to be positive. Marital distress is characterized by disruptions in areas of love and cooperation, as well as in the overall quality of interaction. Any pathology (marital distress or psychiatric disturbance) appears to lead to deficits in positive nonverbal behavior, lower congruence of content and affect for positive content messages, disruptions in power and dominance areas, self-reports of poorer communicative ability, and problems in areas of involvement with the spouse. Furthermore, these latter two variables seem to be further disrupted if both marital distress and psychopathology are present. Generally, disruptions appear to be related to an absence of positive behaviors, rather than to increased proportions of negative behaviors. Thus, treatment strategies should be aimed at increasing positive couple behaviors, rather than at simply eliminating negative behaviors.

Overall, the findings of the present study clearly challenge interactional models of depression and studies of the marital interactions of depressives that argue that the disturbed communication found in these couples is depression-specific. This was clearly not the case in the present study, and replication is certainly a priority in further elucidating the relationships among depression, marital distress and communication difficulties.

The relationship between depression and marital distress is clearly not a simple one. The results of a growing body of literature suggest that both marital distress and depression may be related to some underlying characterological disorders (cf. Gotlib & Hooley, 1988), and that the relationship between depression and

marital distress is interactive, or reciprocal. For example, one proposed process is that marital distress leads to depression only in couples or individuals who are highly dependent (cf. Barnett & Gotlib, 1988). The resulting depression exacerbates both the marital distress and the communication difficulties, which are symptomatic of that distress (as described in interactional models of depression). The distress, in turn, maintains or exacerbates the depression. Unfortunately, such a model is not easily tested.

If valid, an interactive model of depression and marital distress has clear treatment implications. For example, one would expect that treating marital distress in couples with a depressed spouse would lead to amelioration of both marital distress and depression, by breaking the cycle. In fact, the results of several studies support this hypothesis. McLean, Ogston and Grauer (1973) found that conjoint marital therapy was superior to both antidepressant medication and/or individual psychotherapy in the reduction of both depressed mood and the frequency of negative marital exchanges. Similarly, Waring et al. (1988) found that marital therapy combined with antidepressant medication led to improvements in both marital intimacy and depressive symptomatology. Friedman (1975) and Beach and O'Leary (1986) have also found marital therapy to be effective in treating both depression and marital distress (see Gotlib & Colby, 1987, for a more detailed review of this literature). If this model holds true, successful treatment of marital distress would lead to lower relapse rates for depression in couples with a depressed spouse. This has yet to be tested and, although promising, the validity of

this model awaits further empirical support.

In closing, certain limitations of this study should be noted that may partially account for the lack of findings on behavioral measures for both the talk-table and conflict interactions. The relatively small sample size limited the power of the analyses. Although many of the means were in the predicted directions, the small sample size and large variance may have precluded statistically significant differences. The limited sample size also precluded analyses of gender differences, which have been shown to be present in other studies (Biglan et al., 1985; Gotlib, 1986). In addition, because the majority of the patients in this study were female, subject/spouse status was confounded with gender. Clearly, further research must be conducted with larger samples of both males and females to examine possible gender differences in communication deficits.

It should also be noted that the interactions were relatively brief (15 minutes per task per session), especially in comparison to the study by Hautzinger et al. (1982), who analyzed 312 minutes of interaction per couple and did report depression-specific differences. In addition, the psychiatric subjects in this study may not be truly representative of the out-patient psychiatric population, but rather, represent the better-functioning portion of this group. This is a real possibility, given that both the therapists' and individuals' consent was obtained prior to inclusion in the study. This process had the effect of excluding the more seriously ill patients, whom the therapists may have considered too fragile to participate.

Finally, directions for future research are clear. Outcome research investigating marital therapy for couples with a depressed spouse certainly deserves further attention. Such studies could provide valuable information regarding the direction of causality and the relationship between depression and marital distress. In addition, in studies of marital interaction, high-conflict interactional tasks are recommended, and relatively long interactions are likely to provide the most valuable information. Studies using repeated measures are also a priority, in order to further investigate the complex relationship between depression and marital distress. Measures from multiple perspectives are also recommended, because it has been repeatedly shown that marital interaction is perceived differently from varying perspectives. Finally, the use of sequential analyses would provide more in-depth information regarding the process of interactions, not provided by simple frequencies, which may obscure issues related to the timing, sequencing and interrelationships of behaviors. Such analyses were beyond the scope of this study, but other studies using such analyses have begun to identify patterns of interaction (e.g. Billings, 1979; Gottman et al., 1977; Revenstorf et al., 1980). Such studies may prove useful in the treatment of maritally distressed couples and of couples with a depressed spouse by identifying early "triggers" that tend to escalate conflict or lead to other maladaptive communication.

References

Alloy, L.B., & Abramson, L.Y. (1979). Judgment in contingency in depressed and nondepressed students: Sadder but wiser?. Journal of Experimental Psychology: General, 108, 441-485.

American Psychiatric Association. (1980). Diagnostic and statistical manual of mental disorders (3rd edition). Washington, D.C.: Library of Congress.

Arkowitz, H., Holliday, S., & Hutter, M. (1982, November). Depressed women and their husbands: A study of marital interaction and adjustment. Paper presented at the Annual Meeting of the Association for the Advancement of Behavior Therapy, Los Angeles.

Barnett, P.A., & Gotlib, I.H. (1988). Psychosocial functioning and depression: Distinguishing among antecedents, concomitants, and consequences. Psychological Bulletin, 104, 97-126.

Beach, S.H., & Arias, I. (1983). Assessment of perceptual discrepancy: Utility of the Primary Communication Inventory. Family Process, 22, 309-316.

Beach, S.H., Winters, K.C. Weintraub, S., & Neale, J.M. (1983, December). The link between marital distress and depression: A prospective study. Paper presented at the Annual Meeting of the Association for the Advancement of Behavior Therapy, Washington, D.C.

Beach, S.H., & O'Leary, K.D. (1986). The treatment of depression occurring in the context of marital discord. Behavior Therapy, 17, 43-49.

Bech, P., Gram, L.F., Dein, E., Jacobsen, O., Vitger, J., & Bolwig, T.G. (1975). Quantitative ratings of depressive states. Acta Psychiatrica Scandanavica, 51, 161-170.

Beck, A.T. (1967). Depression: Causes and treatments. Philadelphia: University of Pennsylvania Press.

Beck, A.T. (1976). Cognitive therapy and the emotional disorders. New York: International Universities Press.

Beck, A.T., & Beck, R.W. (1972). Screening depressed patients in family practice: A rapid technique. Postgraduate Medicine, 52, 81-85.

Beck, A.T., Ward, C.H., Mendelson, M., Mock, J., & Erbaugh, J. (1961). An inventory for measuring depression. Archives of General Psychiatry, 4, 561-571.

Belsher, G., & Costello, C.G. (1988). Relapse after recovery from unipolar depression: A critical review. Psychological Bulletin, 104, 84-96.

Biglan, A., Hops, H., Sherman, L., Friedman, L.S., Arthur, J. & Osteen,V. (1985). Problem-solving interactions of depressed women and their husbands. Behavior Therapy, 16, 431-451.

Billings, A. (1979). Conflict resolution in distressed and nondistressed married couples. Journal of Consulting and Clinical Psychology, 47, 368-376.

Birchler, G.R., & Webb, L.J. (1977). Discriminating interaction behaviors in happy and unhappy marriages. Journal of Consulting and Clinical Psychology, 45, 494-495.

Birchler, G.R., Weiss, R.L., & Vincent, J.P. (1975). Multimethod analysis of social reinforcement exchange between maritally distressed and nondistressed spouse and stranger dyads. Journal of Personality and Social Psychology, 31, 349-360.

Birtchnell, J., & Kennard, J. (1983). Does marital maladjustment lead to mental illness? Social Psychiatry, 18, 79-88.

Bothwell, S., & Weissman, M. M. (1977). Social impairments four years after an acute depressive episode. American Journal of Orthopsychiatry, 47, 231-237.

Briscoe, C.W., & Smith, J.B. (1973). Depression and marital turmoil. Archives of General Psychiatry, 29, 811-817.

Brown, G.W., & Harris, T. (1978). Social origins of depression. New York: Free Press.

Brown, J.D. (1986). Evaluations of self and others: Self-enhancement biases in social judgments. Social Cognition, 4, 353-376.

Bullock, R., Siegel, R., Weissman, M.M., & Paykel, E.S. (1979). The weeping wife: Marital relations of depressed women. Journal of Marriage and the Family, 34, 488-492.

Carroll, B.J., Fielding, J.M., & Blashki, T.G. (1973). Depression rating scales: A critical review. Archives of General Psychiatry, 28, 361-366.

Coleman, R.E., & Miller, A.G. (1975). The relationship between depression and marital maladjustment in a clinical population: A multitrait-multimethod study. Journal of Consulting and Clinical Psychology, 43, 647-651.

Costello, C.G. (1982). Social factors associated with depression: A retrospective community study. Psychological Medicine, 12, 329-339.

Coyne, J.C. (1976). Depression and the response of others. Journal of Abnormal Psychology, 85, 186-193 (a).

Coyne, J.C. (1976). Toward an interactional description of depression. Psychiatry, 39, 28-40 (b).

Coyne, J.C., Kahn, J., & Gotlib, I.H. (1987). Depression. In T. Jacob (Ed.), Family interaction and psychopathology. New York: Plenum.

Coyne, J.C., Kessler, R.C., Tal, M., Turnbull, J., Wortman, C.B., & Greden, J.F. (1987). Living with a depressed person. Journal of Consulting and Clinical Psychology, 55, 347-352.

Crowther, J.H. (1985). The relationship between depression and marital maladjustment: A descriptive study. The Journal of Nervous and Mental Disease, 173, 227-231.

Fichten, C.S. (1984). See it from my point of view: Videotape and attributions in happy and distressed couples. Journal of Social and Clinical Psychology, 2, 125-142.

Floyd, F.J., & Markman, H.J. (1983). Observational biases in spouse observation: Toward a cognitive/behavioral model of marriage. Journal of Consulting and Clinical Psychology, 51, 450-457.

Friedman, A.S. (1975). Interaction of drug therapy with marital therapy in depressive patients. Archives of General Psychiatry, 9, 139-145.

Gotlib, I.H. (1982). Self-reinforcement and depression in interpersonal interaction: The role of performance level. Journal of Abnormal Psychology, 91, 3-13.

Gotlib, I.H. (1983). Perception and recall of interpersonal feedback: Negative bias in depression. Cognitive Therapy and Research, 7, 399-412.

Gotlib, I.H. (1986). Depression and marital interaction: A longitudinal perspective. Presented at the Third International Conference on Personal Relationships, Tel Aviv,Israel.

Gotlib, I.H., & Cane, D.B. (1987). Construct accessibility and clinical depression: A longitudinal investigation. Journal of Abnormal Psychology, 96, 199-204.

Gotlib, I.H., & Colby, C.A. (1987). Treatment of depression: An interpersonal systems approach. New York: Pergamon Press, Inc.

Gotlib, I.H., & Hooley, J.M. (1988). Depression and marital distress: Current status and future directions. In S. Duck (Ed.), Handbook of personal relationships: Theory, research, and interventions. Chicester, England: Wiley.

Gotlib, I.H., & McCann, D. (1984). Construct accessibility and depression: An examination of cognitive and affective factors. Journal of Personality and Social Psychology, 47, 427-439.

Gotlib, I.H., & Meltzer, S.J. (1987). Depression and the perception of social skill. Cognitive Therapy and Research, 11, 41-54.

Gotlib, I.H., & Robinson, A. (1982). Responses to depressed individuals: Discrepancies between self-report and observer-rated behavior. Journal of Abnormal Psychology, 91, 231-240.

Gottman, J.M. (1979). Marital interaction: Experimental investigations. New York: Academic Press.

Gottman, J.M. (1980). Consistency of nonverbal affect and affect reciprocity in marital interaction. Journal of Consulting and Clinical Psychology, 48, 711-717.

Gottman, J.M., & Levenson, R.W. (1985). A valid procedure for obtaining self-report of affect in marital interaction. Journal of Consulting and Clinical Psychology, 53, 151-160.

Gottman, J.M., Markman, H., & Notarius, C. (1977). The topography of marital conflict: A sequential analysis of verbal and nonverbal behavior. Journal of Marriage and the Family, 39, 461-477.

Gottman, J.M., Notarius, C., Markman, H., Bank, S., Yoppi, B., & Rubin, M.E. (1976). Behavior exchange theory and marital decision- making. Journal of Personality and Social Psychology,34, 14-23.

Gottman, J.M., & Porterfield, A.L. (1981). Communicative competence in the nonverbal behavior of married couples. Journal of Marriage and the Family, 42, 817-824.

Gurman, A.S. & Kniskern, D.P. (1981). Family therapy outcome research: Knowns and unknowns. In A.S. Gurman, & D.P. Kniskern (Eds.), Handbook of family therapy (pp. 742-775). Brunner/Mazel Publishers.

Halweg, K., & Conrad, M. (1983). Coding Manual for the Interaction Coding System (KPI). Unpublished manuscript, Max-Planck-Institute, Germany.

Halweg, K., Reisner, L., Kohli, G., Vollmer, M., Schindler, L., & Revenstorf, D. Development and validity of a new system to analyze interpersonal communication (KPI). In K. Halweg and N.S. Jacobson (Eds.). Marital Interaction: Analysis and Modification. New York: Guilford Press.

Hamilton, M. (1960). A rating scale for depression. Journal of Neurology, Neurosurgery and Psychiatry, 23, 56-62.

Hautzinger, M., Linden, M., & Hoffman, N. (1982). Distressed couples with and without a depressed partner: An analysis of their verbal interaction. Journal of Behavior Therapy and Experimental Psychiatry,13, 307-314.

Hawkins, J.L., Weisberg, C., & Ray, D.L. (1980). Marital communication style and social class. Journal of Marriage and the Family, 39, 479-490.

Haynes, S.W., Follingstead, D.R., & Sullivan, J.L. (1979). Assessment of marital satisfaction and interaction. Journal of Consulting and Clinical Psychology, 47, 653-669.

Heins, T. (1978). Marital interaction in depression. Australian and New Zealand Journal of Psychiatry, 12, 269-275.

Hinchliffe, M., Hooper, D., & Roberts, F.J. (1978). The melancholy marriage. New York: John Wiley.

Hinchliffe, M., Hooper, D., Roberts, F.J., & Vaughn, P.W. (1975). A study of the interaction between depressed patients and their spouses. British Journal of Psychiatry, 126, 164-172.

Hobart, C.W., & Klausner, W.J. (1959). Some social interactional correlates of marital role disagreement and marital adjustment. Marriage and Family Living, 21, 256-263.

Hoehn-Hyde, D., Schlottman, R.S., & Rush, A.J. (1982). Perceptions of social interactions in depressed psychiatric patients. Journal of Consulting and Clinical Psychology, 50, 164-172.

Hooley, J.M., Orley, J., & Teasdale, J.D. (1986). Levels of expressed emotion and relapse in depressed patients. British Journal of Psychiatry, 148, 642-647.

Hooley, J.M., Richters, J.E., Weintraub, S., & Neale, J.M. (1987). Psychopathology and marital distress: The positive side of positive symptoms. Journal of Abnormal Psychology, 96, 27-33.

Hoover, C.F., & Fitzgerald, R.G. (1981). Marital conflict of manic-depressive patients. Archives of General Psychiatry, 38, 65-67 (a).

Hoover, C.F., & Fitzgerald, R.G. (1981). Dominance in the marriages of affective patients. The Journal of Nervous and Mental Disease, 169, 624-628 (b).

Ilfield, F.W. (1977). Current social stressors and symptoms of depression. American Journal of Psychiatry, 134, 161-166.

Jacobson, N.S., Follette, W.C., & McDonald, D.W. (1982). Reactivity to positive and negative behavior in distressed and nondistressed married couples. Journal of Consulting and Clinical Psychology, 50, 706-714.

Jacobson, N.S., & Margolin, G. (1979). Marriage and marital distress from a social learning perspective. In Marital therapy strategies based on social learning and behavior exchange principles. New York: Brunner/Mazel Publishers.

Jacobson, N.S., Waldron, H., & Moore, D. (1980). Toward a behavioral profile of marital distress. Journal of Consulting and Clinical Psychology, 48, 696-703.

Kahn, J., Coyne, J.C., & Margolin, G. (1985). Depression and marital disagreement: The social construction of despair. Journal of Social and Personal Relationships, 2, 447-461.

Kahn, M. (1970). Non-verbal communication and marital satisfaction. Family Process, 9, 449-456.

Keller, M.B., Klerman, G.L., Lavori, P.W., Coryell, W., Endicott, J., & Taylor, J. (1984). Long-term outcome of episodes of major depression. Journal of the American Medical Association, 252, 788-792.

Kiesler, D.J., Anchin, J.C., Perkins, M.J., Chirico, B.M., Kyle, E.M., & Federman, E.J. (1976). The impact message inventory: Form II. Richmond: Virginia Commonwealth University.

Kiesler, D.J., & Federman, E.J. (1978). Anchoring obsessive and hysteric personalities to the interpersonal circle. Unpublished manuscript, Virginia Commonwealth University.

Kimmel, D., & Van Der Veen, F. (1974). Factors of marital adjustment in Locke's Marital Adjustment Test. Journal of Marriage and the Family, 36, 57-63.

Kirk, R.E. (1982). Experimental Design: Procedures for the Behavioral Sciences (2nd. ed.). New York: Brooks Cole.

Koren, P., Carlton, K., & Shaw, D. (1980). Marital conflict: Relations among behaviors, outcomes and distress. Journal of Consulting and Clinical Psychology, 48, 460-468.

Kowalik, D.L., & Gotlib, I.H. (1987). Depression and marital interaction: Concordance between intent and perception of communication. Journal of Abnormal Psychology, 96, 127-134.

Krantz, S.E., & Moos, R.H. (1987). Functioning and life context among spouses of remitted and nonremitted depressed patients. Journal of Consulting and Clinical Psychology, 545, 353-360.

Lavin, T.J. (1987). Divergence and convergence in the causal attributions of married couples. Journal of Marriage and the Family, 49, 71-80.

Lederer, W., & Jackson, D.D. (1968). The mirages of marriage. New York: Norton.

Levenson, R.W., & Gottman, J.M. (1983). Marital interaction: Physiological linkage and affective exchange. Journal of Personality and Social Psychology, 45, 587-597.

Lewinsohn, P.M. (1974). A behavioral approach to depression. In R.J. Friedman & M.M. Katz (Eds.), The psychology of depression: Contemporary theory and research (157-185). Washington: V.H. Winston & Sons.

Lewinsohn, P.M., & Atwood, G.E. (1969). Depression: A clinical research approach. Psychotherapy, Theory, Research and Practice, 6, 166-171.

Lewinsohn, P.M., Mischel, W., Chaplin, W., & Barton, R. (1980). Social competence and depression: The role of illusory self-perceptions. Journal of Abnormal Psychology, 89, 203-212.

Libet, J.M., & Lewinsohn, P.M. (1973). Concept of social skill with special reference to the behavior of depressed persons. Journal of Consulting and Clinical Psychology, 40, 304-312.

Linden, M., Hautzinger, M., & Hoffman, N. (1983). Discrimminant analysis of depressive interactions. Behavior Modification, 7, 403-422.

Locke, H.J., Sabagh, G., & Thomes, M.M. (1956). Correlates of primary communication and empathy. Research Studies of the State College of Washington, 24, 116-124.

Locke, H.J., & Wallace, K.M. (1959). Short marital-adjustment and prediction tests: Their reliability and validity. Marriage and Family Living, 21, 251-255.

Locke, H.J., & Williamson, R.C. (1958). Marital adjustment: A factor analysis study. American Sociological Review, 23, 562-569.

Margolin, G., Hattem, D., John, R.S., & Yost, K. (1985). Perceptual agreement between spouses and outside observers when coding themselves and a stranger dyad. Behavioral Assessment, 7, 235-247.

Margolin, G., & Wampold, B.E. (1981). Sequential analysis of conflict and accord in distressed and nondistressed marital partners. Journal of Consulting and Clinical Psychology, 49, 554-567.

Markman, H.J., Notarius, C.I., Stephen, T., & Smith, R.J. (1981). Behavioral observation systems for couples: The current status. In E.E.Filsinger, & R.A.Lewis, (Eds.), Assessing marriage: New behavioral approaches (pp.234-262). California: Sage Publications, Inc.

McLean, P.D., Ogston, K., & Grauer, L. (1973). A behavioral approach to the treatment of depression. Journal of Behavior Therapy and Experimental Psychiatry, 4, 323-330.

Menaghan, E.G., & Lieberman, M.A. (1986). Changes in depression following divorce: A panel study. Journal of Marriage and the Family, 17, 319-328.

Merikangas, K.R. (1984). Divorce and assortative mating among depressed patients. American Journal of Psychiatry, 141, 74-76.

Merikangas, K.R., Ranelli, C.J., & Kupfer, D.J. (1979). Marital interaction in hospitalized depressed patients. Journal of Nervous and Mental Disease, 167, 689-695.

Mitchell, R.E., Cronkite, R.C., & Moos, R.H. (1983). Stress, coping, and depression among married couples. Journal of Abnormal Psychology, 92, 433-448.

Monroe, S.C., Bromet, E.J., Connell, M.M., & Steiner, S.C. (1986). Social support, life events, and depressive symptoms: A 1-year prospective study. Journal of Consulting and Clinical Psychology, 54, 424-431.

Murphy, D.C., & Mendelson, L.A. (1973). Communication and adjustment in marriage: Investigating the relationship. Family Process, 12, 317-326.

Narvan, L. (1967). Communication and adjustment in marriage. Family Process, 6, 173-184.

Noller, P. (1980). Misunderstandings in marital communication:A study of couples' nonverbal communication. Journal of Personality and Social Psychology, 39, 1135-1148.

Noller, P (1981). Gender and marital adjustment level differences in decoding messages from spouses and strangers. Journal of Personality and Social Psychology, 41, 272-278.

Notarius C.I., & Markman, H.J. (1981). The couples interaction scoring system. In E.E. Filsinger & R.A. Lewis (Eds.),Assessing marriage: New behavioral approaches, California: Sage Publications, Inc.

O'Hara, M.W. (1986). Social support, life events, and depression during puerperium. Archives of General Psychiatry, 43, 569-573.

Olson, D., & Ryder, R. (1970). Inventory of marital conflicts (IMC): An experimental interaction procedure. Journal of Marriage and the Family, 32, 443-448.

Overall, J.E. (1971). Associations between marital history and the nature of manifest psychopathology. Journal of Abnormal Psychology, 78, 213-221.

Patton, D., & Waring, E.M. (1984). The quality and quantity of marital intimacy in the marriages of psychiatric patients. Journal of Sex and Marital Therapy, 10, 201-206.

Paykel, E.S., Prusoff, B.A., Klerman, G.L., & DiMascio, A. (1973). Self-report and clinical interview ratings in depression. Journal of Nervous and Mental Diseases, 156, 166-182.

Paykel, E.S., & Weissman, M.M. (1973). Social adjustment and depression: A longitudinal study. Archives of General Psychiatry, 28, 659-663.

Perkins, M.J., Kiesler, D.J., Anchin, J.C., Chirico, B.M., Kyle, E.M., & Federman, E.J. (1979). The impact message inventory: A new measure of relationship in counseling/psychotherapy and other dyads. Journal of Counseling Psychology, 26, 363-367.

Raush, H.L., Barry, W.A., Hertel, R.K., & Swain, M.A. (1974). Communication, conflict and marriage. San Francisco:Jossey-Bass.

Renne, K. (1970). Correlates of dissatisfaction in marriage. Journal of Marriage and the Family, 32, 54-67.

Revenstorf, D., Vogel, B., Wegener, C., Hahlweg, K., & Schindler, L. (1980). Escalation phenomena in interaction sequences: An empirical comparison of distressed and nondistressed couples. Behavior Analysis and Modification, 4, 97-115.

Reynolds, W.M., & Gould, J.W. (1981). A psychometric investigation of the standard and short form Beck Depression Inventory. Journal of Consulting and Clinical Psychology, 49, 306-307.

Rounsaville, B.J., Prusoff, B.G., & Weissman, M.M. (1980). The course of marital disputes in depressed women: A 48 month follow-up study. Comprehensive Psychiatry, 21, 111-117.

Rounsaville. B.J., Weissman, M.M., Prusoff, B.G., & Hercog-Baron, R.L. (1979). Marital disputes and treatment outcome in depressed women. Comprehensive Psychiatry, 20, 483-489.

Roy, A. (1978). Vulnerability factors and depression in women. British Journal of Psychiatry, 133, 106-110.

Rubin, M.E. (1977). Differences between distressed and nondistressed couples in verbal and nonverbal communication codes. Unpublished doctoral dissertation, Bloomington: Indiana University.

Ruscher, S.M., & Gotlib, I.H. (1988). Marital interaction patterns of couples with and without a depressed partner. Behavior Therapy, 19, 455-470.

Rush, A.J., Shaw, B., & Khatami, M. (1980). Cognitive therapy of depression: Utilizing the couples system. Cognitive Theory and Research, 4, 103-113.

Ryder, R.G. (1968). Husband-wife dyads versus married strangers. Family Process, 7, 233-238.

Sabatelli, R.M., Buck, R., & Dreyer, A. (1982). Nonverbal communication accuracy in married couples: Relationship with marital complaints. Journal of Personality and Social Psychology, 43, 1088-1097.

Schaap, C. (1982). Communication and adjustment in marriage. Lisse: Swets and Zeitlinger.

Schless, A.P., Schwartz, L., Goetz, C., & Mendels, J. (1974). How depressives view the significance of life events. British Journal of Psychiatry, 125, 406-410.

Spitzer, R.L., & Forman, J.B.W. (1979). DSM-III field trials: II. Initial experience with the multiaxial system. American Journal of Psychiatry, 136, 818-820.

Spitzer, R.L., Forman, J.B.W., & Nee, J. (1979). DSM-III field trials: I. Initial interrater diagnostic reliability. American Journal of Psychiatry, 136, 815-817.

Spitzer, R.L., Gibbon, M., & Endicott. J. (1978). Global assessment scale. Unpublished manuscript.

Strack, S., & Coyne, J. (1983). Social confirmation of dysphoria: Shared and private reactions. Motivation and Emotion, 5, 153-166.

Strodbeck, F.L. (1951). Husband-wife interaction over revealed differences. American Sociological Review,16, 468-473.

Vaughn, C.E., & Leff, J.P. (1976). The influence of family and social factors on the course of psychiatric illness: A comparison of schizophrenic and depressed neurotic patients. British Journal of Psychiatry, 129, 125-137.

Vincent, J.P., Weiss, R.H., & Birchler, G.R. (1975). A behavior analysis of problem-solving in distressed and nondistressed married and stranger dyads. Behavior Therapy, 6, 475-487.

Waring, E.M., & Patton, D. (1984). Marital intimacy and depression. British Journal of Psychiatry, 145, 641-644.

Waring, E.M., Chamberlaine, C.H., McCrank, E.W., Stalker, C.A., Carver, C., Fry, R., & Barnes, S. (1988). Dysthymia: A Randomized study of cognitive marital therapy and antidepressants. Canadian Journal of Psychiatry, 33, 96-99.

Weiss, R.L. (1979). Marital interaction scoring system: MICS-II. Training and reference manual for coders. Eugene: Oregon Marital Studies Program.

Weiss, R.L., & Birchler, G.R. (1975). Areas of change questionnaire. Eugene: Oregon Marital Studies Program.

Weiss, R.L., & Margolin, G. (1977). Assessment of marital conflict and accord. In A.R. Ciminero, K.S. Kalhoun, & H.E. Adams (Eds.), Handbook of Behavioral Assessment. New York: Wiley.

Weissman, M.M., & Klerman, G.L. (1973). Psychotherapy with depressed women: An empirical study of content themes and reflection. British Journal of Psychiatry, 123, 55-61.

Weissman, M.M., & Paykel, E.S. (1974). The depressed woman: A study of social relationships. Chicago: University of Chicago Press.

Williams, A.M. (1979). The quantity and quality of marital interaction related to marital satisfaction: A behavioral analysis. Journal of Applied Behavioral Analysis, 12, 665-678.

Winter, F., Ferreria, A., & Bowers, N. (1973). Decision-making in married and unrelated couples. Family Process, 12, 83-94.

Youngren, M.A., & Lewinsohn, P.M. (1980). The functional relation between depression and problematic behavior. Journal of Abnormal Psychology, 89, 333-341.

APPENDIX A

DSM-III CRITERIA FOR DEPRESSION

DSM-III Diagnostic Criteria for Major Depressive Episode

A. Dysphoric mood or loss of interest or pleasure in all or almost all usual activities and pastimes. The dysphoric mood is characterized by symptoms such as the following: depressed, sad, blue, hopeless, low, down in the dumps, irritable. The mood disturbance must be prominent and relatively persistent, but not necessarily the most dominant symptom, and does not include momentary shifts from one dysphoric mood to another dysphoric mood, e.g., anxiety to depression to anger, such as are seen in states of acute psychotic turmoil. (For children under six, dysphoric mood may have to be inferred from a persistently sad facial expression).

B. At least four of the following symptoms have each been present nearly every day for a period of at least two weeks (in children under six, at least three of the first four).

(1) poor appetite or significant weight loss (when not dieting) or increased appetite or significant weight gain (in children under six, consider a failure to make expected weight gains)

(2) insomnia or hypersomnia

(3) psychomotor agitation or retardation (but not merely subjective feelings of restlessness or being slowed down) (in children under six, hypoactivity)

(4) loss of interest or pleasure in usual activities, or decrease in sexual drive not limited to a period when delusional or hallucinating (in children under six, signs of apathy)

(5) loss of energy; fatigue

(6) Feelings of worthlessness, self-reproach, or excessive or inappropriate guilt (either may be delusional)

(7) complaints or evidence of diminished ability to think or concentrate, such as slowed thinking, or indecisiveness not associated with marked loosening of associations or incoherence

(8) recurrent thoughts of death, suicidal ideation, wishes to be dead, or suicide attempt

C. Neither of the following dominate the clinical picture when an affective syndrome is absent (i.e., symptoms in criteria A and B above)

(1) preoccupation with mood-incongruent delusion or hallucination

(2) bizarre behavior

D. Not superimposed on either Schizophrenia, Schizophreniform Disorder, or a Paranoid Disorder

E. Not due to any Organic Mental Disorder or Uncomplicated Bereavement.

DSM-III Diagnostic Criteria for Dysthymic Disorder

A. During the past two years (or one year for children or adolescents) the individual has been bothered most or all of the time by symptoms characteristic of the depressive syndrome but that are not of sufficient severity and duration to meet the criteria for a major depressive episode.

B. The manifestation of the depressive syndrome may be relatively persistent or separated by periods of normal mood lasting a few days to a few weeks, but no more than a few months at a time.

C. During the depressive periods there is either prominent depressed mood (e.g., sad, blue, down in the dumps, low) or marked loss of interest or pleasure in all, or almost all, usual activities and pastimes.

D. During the depressive periods at least three of the following symptoms are present:

(1) insomnia or hypersomnia
(2) low energy level or chronic tiredness
(3) feelings of inadequacy, loss of self-esteem, or self-deprecation
(4) decreased effectiveness or productivity at school, work or home
(5) decreased attention, concentration, or ability to think clearly
(6) social withdrawal
(7) loss of interest in or enjoyment of pleasurable activities
(8) irritability or excessive anger (in children, expressed toward parents or caretakers)
(9) inability to respond with apparent pleasure to praise or rewards
(10) less active or talkative than usual, or feels slowed down or restless
(11) pessimistic attitude toward the future, brooding over past events, or feeling sorry for self
(12) tearfulness or crying
(13) recurrent thoughts of death or suicide

E. Absence of psychotic features, such as delusions, hallucinations, or incoherence, or loosening of associations

F. If the disturbance is superimposed on a pre-existing mental disorder, such as Obsessive Compulsive Disorder or Alcohol Dependence, the depressed mood, by virtue of its intensity or effect on functioning, can be clearly distinguished from the individual's usual mood.

APPENDIX B

BECK DEPRESSION INVENTORY-SHORT FORM

Beck Questionnaire-Short form

Instructions: On the questionnaire are groups of statements. Please read the entire group of statements in each category. Then pick out the one statement in that group which best describes the way you feel today, that is, right now! Circle the number beside the statement you have chosen. If several statements in the group seem to apply equally well, circle each one.
Be sure to read all the statements in each group before making a choice.

A. 3 I am so sad or unhappy that I can't stand it.
2 I am blue or sad all the time and I can't snap out of it.
1 I feel sad or blue.
0 I do not feel sad.

B. 3 I feel that the future is hopeless and that things cannot improve.
2 I feel I have nothing to look forward to.
1 I feel discouraged about the future.
0 I am not particularly pessimistic or discouraged about the future.

C. 3 I feel I am a complete failure as a person (parent, husband, wife).
2 As I look back on my life, all I can see is a lot of failures.
1 I feel I have failed more than the average person.
0 I do not feel like a failure.

D. 3 I am dissatisfied with everything.
2 I don't get satisfaction out of anything anymore.
1 I don't enjoy things the way I used to.
0 I am not particularly dissatisfied.

E. 3 I feel as though I am very bad or worthless.
2 I feel quite worthless.
1 I feel bad or unworthy a good part of the time.
0 I don't feel particularly guilty.

F. 3 I hate myself.
2 I am disgusted with myself.
1 I am disappointed in myself.
0 I don't feel disappointed in myself.

G. 3 I would kill myself if I had the chance.
2 I have definite plans about committing suicide.
1 I feel I would be better off dead.
0 I don't have any thoughts of harming myself.

H. 3 I have lost all of my interest in other people and don't care much about them at all.
2 I have lost most of my interest in other people and have little feeling for them.
1 I am less interested in other people than I used to be.
0 I have not lost interest in other people.

I. 3 I can't make any decisions at all anymore.
2 I have great difficulty in making decisions.
1 I try to put off making decisions.
0 I make decisions about as well as ever.

J. 3 I feel that I am ugly or repulsive-looking.
2 I feel that there are permanent changes in my appearance and they make me look unattractive.
1 I am worried that I am looking old or unattractive.
0 I don't fell that I look any worse than I used to.

K. 3 I can't do any work at all.
2 I have to push myself very hard to do anything.
1 It takes extra effort to get started at doing something.
0 I can work about as well as before.

L. 3 I get too tired to do anything.
2 I get tired from doing anything.
1 I get tired more easily than I used to.
0 I don't get any more tired than usual.

M. 3 I have no appetite at all anymore.
2 My appetite is much worse now.
1 My appetite is not as good as it used to be.
0 My appetite is no worse than usual.

APPENDIX C

HAMILTON RATING SCALE FOR DEPRESSION

HAMILTON RATING SCALE FOR DEPRESSION

1. Depressed mood: Gloomy attitude. Pessimism about the future. Feeling of sadness; Tendency to weep.
   - Sadness, etc.....1
   - Occasional weeping.....2
   - Frequent weeping.....3
   - Extreme symptoms.....4

2. Guilt: Self-reproach; Feels has let people down 1
   - Ideas of guilt.....2
   - Present illness is a punishment,
   - Delusions of guilt.....3
   - Hallucinations of guilt.....4

3. Suicide: Feels life is not worth living.....1
   - Wishes she were dead.....2
   - Suicidal ideas.....3
   - Attempts at suicide.....4

4. Insomnia,initial: Difficulty falling asleep 0-2

5. Insomnia, middle: Restless and disturbed during the night 0-2

6. Insomnia, terminal: Waking in the early hours of the morning, unable to get back to sleep. 0-2

7. Work and interests: Feelings of incapacity.....1
   - Listlessness, indecision & vacillation.2
   - Decreased social activities.....3
   - Unable to work.....4

8. Retardation: Slowness of thought, speech & activity Apathy, stupor, decreased motor activity
   - Slight retardation at interview.....1
   - Obvious retardation at interview.....2
   - Retardation makes interview difficult..3
   - Complete stupor.....4

9. Agitation: Restlessness associated with anxiety,
   - Playing with hands, hair, etc.....1
   - Hand-wringing, nail-biting.....2

/...2

10. Anxiety, psychic: Tension & irritability.....1
Worrying about minor matters.....2
Apprehensive attitude.....3
Fears.....4

11. Anxiety, somatic: Gastrointestinal: wind, indigestion
Cardiovascular: palpitations, headache
Respiratory: hyperventilation, sighing
Genito-urinary
0-4

12. Gastrointestinal: Loss of appetite, heavy feelings in abdomen.....1
Constipation requiring laxatives, requires encouragement to eat.....2

13. General somatic symptoms: Heaviness in limbs
Diffuse backache
Loss of energy, fatiguability 0-2

14. Genital symptoms: Loss of libido
Menstrual disturbance 0-2

15. Hypochondriasis: Self-absorption (bodily).....1
Preoccupation with health.....2
Frequent complaints, requests help.....3
Hypochondriacal delusions.....4

16. Loss of weight: Probable weight loss.....1
2 lb. a week o 10 lb. a year (when not dieting).....2

17. Insight: Acknowledges illness.....0
Attributes illness to bad food, climate, virus, overwork.....1
Denies illness.....2

GRADING:				
	0	Absent	0	Absent
	1	Mild or trivial	1	Slight or doubtful
	2	Moderate	2	Clearly present
	3	Moderate		
	4	Severe		

APPENDIX D

GLOBAL ASSESSMENT SCALE

GLOBAL ASSESSMENT SCALE

Rate the subject's lowest level of functioning in the last week by selecting the lowest range which describes his functioning on a hypothetical continuum of mental health-illness. For example, a subject whose "behavior is considerably influenced by delusions" (range 21-30), should be given a rating in that range even though he has "major impairment in several areas" (range 31-40). Use intermediary levels when appropriate (e.g. 35, 58, 62). Rate actual functioning independent of whether or not the subject is receiving and may be helped by medication or some other form of treatment.

Range	Description
91-100	Superior functioning in a wide range of activities, life's problems never seem to get out of hand, is sought out by others because of his warmth and integrity. No symptoms.
81-90	Good functioning in all areas, many interests, socially effective, generally satisfied with life. There may or may not be transient symptoms and "everyday" worries that only occasionally get out of hand.
71-80	No more than slight impairment in functioning, varying degrees of "everyday" worries and problems that sometimes get out of hand. Minimal symptoms may or may not be present.
61-70	Some mild symptoms (e.g. depressive mood or mild insomnia) OR some difficulty in several areas of functioning, but generally functioning pretty well, has some meaningful interpersonal relationships and most untrained people would not consider him "sick".
51-60	Moderate symptoms OR generally functioning with some difficulty (e.g. few friends and flat affect, depressed mood and pathological self-doubt, euphoric mood and pressure of speech, moderately severe antisocial behavior).
41-50	Any serious symptomatology or impairment in functioning that most clinicians would think obviously requires treatment or attention (e.g. suicidal preoccupation or gesture, severe obsessional rituals, frequent anxiety attacks, serious antisocial behavior, compulsive drinking, mild but definite manic syndrome).

/...2

GLOBAL ASSESSMENT SCALE

31-40 Major impairment in several areas, such as work, family relations, judgment, thinking or mood (e.g. depressed woman avoids friends, neglects family, unable to do housework), OR some impairment in reality testing or communication (e.g. speech is at times obscure, illogical or irrelevant) OR single suicide attempt.

21-30 Unable to function in almost all areas (e.g. stays in bed all day) OR behavior is considerably influenced by either delusions or hallucinations OR serious impairment in communication (sometimes incoherent or unresponsive) or judgment (e.g. acts grossly inappropriately)

11-20 Needs some supervision to prevent hurting self or others, or to maintain minimal personal hygiene (e.g. repeated suicide attempts, frequently violent, manic excitement, smears feces), OR gross impairment in communication (e.g. largely incoherent or mute).

1-10 Needs constant supervision for several days to prevent hurting self or others (e.g. requires an intensive care unit with special observation by staff), makes no attempt to maintain minimal personal hygiene, or serious suicide act with clear intent and expectation of death.

APPENDIX E

MARITAL ADJUSTMENT TEST

MARITAL ADJUSTMENT TEST

1. Circle the letter on the scale below which best describes the degree of happiness, everything considered, of your present marriage. The middle point, "happy", represents the degree of happiness which most people get from marriage, and the scale gradually ranges on one side from those few who are very unhappy in marriage to those few who experience extreme joy or felicity in marriage.

A	B	C	D	E	F	G
Very Unhappy			Happy			Perfectly Happy

Check the approximate extent of agreement or disagreement between you and your mate on the following items. Please answer each item.

	Always Agree	Almost Always Agree	Occasionally Disagree	Frequently Disagree	Almost Always Disagree	Always Disagree
2. Handling family finances						
3. Matters of recreation						
4. Demonstrations of affection						
5. Friends						
6. Sex relations						
7. Conventionality (right, good, or proper conduct)						
8. Philosophy of life						
9. Ways of dealing with in-laws						

10. When disagreements arise, they usually result in :
Husband giving in _____
Wife giving in _____
Agreement by mutual give and take _____

11. Do you and your mate engage in outside interests together?
All of them _____
Some of them _____
Very few of them _____
None of them _____

12. In leisure time, do you generally prefer:
to be "on the go" _____
or
to stay at home _____

Does your mate generally prefer:
to be "on the go" _____
or
to stay at home _____

13. Do you ever wish you had not married?
Frequently _____
Occasionally _____
Rarely _____
Never _____

14. If you had your life to live over, do you think you would:
Marry the same person _____
Marry a different person _____
Not marry at all _____

15. Do you confide in your mate?
Almost never _____
Rarely _____
In most things _____
In everything _____

APPENDIX F

CONSENT FORMS

C

CONSENT FORM

The staff of_____ Hospital and the University of Western Ontario is conducting a research study on how couples communicate. The study will require your participation in two 90 minute sessions with your spouse- one today and the second in approximately two months. You will receive $15.00 for each session in which you and your spouse participate to cover baby-sitting and/or transportation costs. The study involves essentially no discomfort or risk. The sessions will require you and your spouse to respond to five short questionnaires and later discuss some selected topics. These sessions will be videotaped for purposes of scoring, and the tapes will be erased after they are scored. All information will be coded and subjected to statistical analyses. There will be no disclosure of your name, and no identifying data released on you in reporting the results of this study in professional or scientific literature. You may withdraw your consent and discontinue participation in this study at any time. We shall be pleased to answer any further questions you may have concerning your involvement in this research study. If you should have any questions or concerns regarding the study, please contact Debra Kowalik at 451-9729.

I,_____, agree to participate in the research study which is described above.

Date:_____

_____
Signature of participant

_____
Signature of witness

S

CONSENT FORM

The staff of_____ Hospital and the University of Western Ontario is conducting a research study on how couples communicate. The study will require your participation in two 90 minute sessions with your spouse- one today and the second in approximately two months. You will receive $15.00 for each session in which you and your spouse participate to cover baby-sitting and/or transportation costs. The study involves essentially no discomfort or risk. The sessions will require you and your spouse to respond to five short questionnaires and later discuss some selected topics. These sessions will be videotaped for purposes of scoring, and the tapes will be erased after they are scored. All information will be coded and subjected to statistical analyses. There will be no disclosure of your name, and no identifying data released on you in reporting the results of this study in professional or scientific literature. This study is completely independent of any treatment you and/or your spouse may now be receiving or may receive in the future. You may withdraw your consent and discontinue participation in this study at any time. We shall be pleased to answer any further questions you may have concerning your involvement in this research study. If you should have any questions or concerns regarding the study, please contact Debra Kowalik at 451-9729.

I,_____, agree to participate in the research study which is described above.

Date:_____

_____
Signature of participant

_____
Signature of witness

P

CONSENT FORM

The staff of_____ Hospital and the University of Western Ontario is conducting a research study on how couples communicate. The study will require your participation in one half hour session during which you will be briefly interviewed and asked to complete a questionnaire. You will also be asked to participate in two 90 minute sessions with your spouse- one during the next week and the second in approximately two months. You will receive $15.00 for each session in which you and your spouse participate to cover baby-sitting and/or transportation costs. The study involves essentially no discomfort or risk. The sessions will require you and your spouse to respond to five short questionnaires and later discuss some selected topics. These sessions will be videotaped for purposes of scoring, and the tapes will be erased after they are scored. All information will be coded and subjected to statistical analyses. There will be no disclosure of your name, and no identifying data released on you in reporting the results of this study in professional or scientific literature. This study is completely independent of any treatment you and/or your spouse may now be receiving or may receive in the future. You may withdraw your consent and discontinue participation in this study at any time. We shall be pleased to answer any further questions you may have concerning your involvement in this research study. If you should have any questions or concerns regarding the study, please contact Debra Kowalik at 451-9729.

I,_____, agree to participate in the research study which is described above.

Date:_____ _____

Signature of participant

_____

Signature of witness

APPENDIX G

PRIMARY COMMUNICATION INVENTORY

The Primary Communication Inventory

Instructions: Below is a list of items on communication between you and your spouse. On the line below each item are five possible answers regarding the frequency with which these items occur. For each item, please circle the letter corresponding to the extent to which you and your spouse behave in the specified way.

1. How often do you and your spouse talk over pleasant things that happen during the day?

A	B	C	D	E
very frequently	frequently	occasionally	seldom	never

2. How often do you and your spouse talk over unpleasant things that happen during the day?

A	B	C	D	E
very frequently	frequently	occasionally	seldom	never

3. Do you and your spouse talk over things you disagree about or have difficulties over?

A	B	C	D	E
very frequently	frequently	occasionally	seldom	never

4. Do you and your spouse talk over things in which you are both interested?

A	B	C	D	E
very frequently	frequently	occasionally	seldom	never

OVER

5. Does your spouse adjust what he(she) says and how he(she) says it to the way you seem to feel at the moment?

A	B	C	D	E
very frequently	frequently	occasionally	seldom	never

6. When you start to ask a question, does your spouse know what it is before you ask?

A	B	C	D	E
very frequently	frequently	occasionally	seldom	never

7. Do you know the feelings of your spouse from his(her) facial and bodily gestures?

A	B	C	D	E
very frequently	frequently	occasionally	seldom	never

8. Do you and your spouse avoid certain subjects in conversation?

A	B	C	D	E
very frequently	frequently	occasionally	seldom	never

9. Does your spouse explain or express himself(herself) to you through a glance or a gesture?

A	B	C	D	E
very frequently	frequently	occasionally	seldom	never

10. Do you and your spouse discuss things together before making an important decision?

A	B	C	D	E
very frequently	frequently	occasionally	seldom	never

OVER

11. Can your spouse tell what kind of day you have had without asking?

A	B	C	D	E
very frequently	frequently	occasionally	seldom	never

12. Your spouse wants to visit some close friends or relatives. You don't particularly enjoy their company. Would you tell him(her) this?

A	B	C	D	E
very frequently	frequently	occasionally	seldom	never

13. Does your spouse discuss matters of sex with you?

A	B	C	D	E
very frequently	frequently	occasionally	seldom	never

14. Do you and your spouse use words that have a special meaning not understood by others?

A	B	C	D	E
very frequently	frequently	occasionally	seldom	never

15. How often does your spouse sulk or pout?

A	B	C	D	E
very frequently	frequently	occasionally	seldom	never

16. Can you and your spouse discuss your most sacred beliefs without feelings of restraint or embarrassment?

A	B	C	D	E
very frequently	frequently	occasionally	seldom	never

OVER

17. Do you avoid telling your spouse things that put you in a bad light?

A	B	C	D	E
very frequently	frequently	occasionally	seldom	never frequently

18. You and your spouse are visiting friends. Something is said by the friends that causes you to glance at each other. Would you understand each other?

A	B	C	D	E
very frequently	frequently	occasionally	seldom	never frequently

19. How often can you tell just as much from the tone of voice of your spouse as from what he(she) actually says?

A	B	C	D	E
very frequently	frequently	occasionally	seldom	never frequently

20. How often do you and your spouse talk with each other about personal problems?

A	B	C	D	E
very frequently	frequently	occasionally	seldom	never frequently

21. Do you feel that in most matters your spouse knows what you are trying to say?

A	B	C	D	E
very frequently	frequently	occasionally	seldom	never frequently

22. Would you rather talk about intimate matters with your spouse than with some other person?

A	B	C	D	E
very frequently	frequently	occasionally	seldom	never frequently

OVER

23. Do you understand the meaning of your spouse's facial expressions?

A	B	C	D	E
very frequently	frequently	occasionally	seldom	never frequently

24. If you and your spouse are visiting friends or relatives and one of you starts to say something, does the other take over the conversation without the feeling of interrupting?

A	B	C	D	E
very frequently	frequently	occasionally	seldom	never frequently

25. During the marriage, have you and your spouse in general talked most things over together?

A	B	C	D	E
very frequently	frequently	occasionally	seldom	never frequently

APPENDIX H

PROBLEM INVENTORY

PROBLEM INVENTORY

Below are listed areas of disagreement experienced by many couples. In the first column please indicate how severe the problem is in your relationship, by placing a number from 0 to 100. A zero indicates that the problem is not severe, and a 100 indicates that it is a very severe problem area. In the second column, please write the number of years, months, weeks, or days that this area has been a problem.

For example:

	How severe?	How long?
Alcohol and drugs	90	2.5 years

This indicates that alcohol and drugs are, in your opinion, a serious problem, and that it has been a problem for about 2.5 years.

	How severe?	How long?
1. Money		
2. Communication		
3. In-laws		
4. Sex		
5. Religion		
6. Recreation		
7. Friends		
8. Alcohol and drugs		
9. Children		
10. Jealousy		

Please feel free to write down any other problem area(s) which you feel is (are) relevant.

11.

12.

APPENDIX I

FUN DECK ACTIVITIES

FUN DECK ACTIVITIES

Going on errands together-wasting an hour or two driving around and going into stores together.

Playing games together or with friends (Scrabble, Monopoly, chess, etc.).

Going to a concert.

Going to a ballgame or other athletic event.

Going bowling.

Just sitting around with the lights low and talking.

Reading the Sunday paper together.

Making love.

Watching television together.

Stargazing when its warm outside.

Making or planning home improvements.

Washing the car together.

Getting up to see the sunrise.

Going to a friendly bar together or with friends.

Taking a picnic lunch to a nearby park or going hiking.

Going to a party together.

Going to a motel for the night.

Visiting friends.

Playing in the snow or leaves.

Listening to music together.

APPENDIX J

POST-INTERACTION QUESTIONNAIRE

POST-INTERACTION QUESTIONNAIRE

Please answer the following questions to the best of your ability:

What percentage of your messages did you code as positive or very-positive? _____%

What percentage of your spouse's messages did you code as positive or very-positive? _____%

What percentage of your messages did you code as negative or very-negative? _____%

What percentage of your spouse's messages did you code as negative or very-negative? _____%

What percentage of your messages do you think your spouse coded as you intended them to be taken? _____%

What percentage of your spouse's messages do you think you coded as your spouse intended them to be taken? _____%

Overall, how good was communication between you and your spouse?

Very Poor | O.K. | Very Good

Who was most responsible for how good or poor the discussion was?

Husband_____

Wife_____

Both_____

APPENDIX K

IMPACT MESSAGE INVENTORY

IMPACT MESSAGE INVENTORY

This inventory contains words, phrases and statements which people use to describe how they are emotionally engaged or impacted when interacting with another person.

You are to respond to this inventory by indicating how accurately each of the following items describes your reactions to your spouse during the conflict discussion. Respond to each item in terms of how precisely it describes the feelings your spouse aroused in you, the behaviors you felt like directing towards him/her during the discussion, and/or the descriptions of him/her that came to mind when you were interacting with him/her. Indicate how each item describes your actual reactions by using the following scale: 1--Not at all, 2--Somewhat, 3--Moderately so, 4--Very much so.

In filling out the following pages, first imagine yourself during the discussion you and your spouse have just completed. Focus on the immediate reactions you were experiencing. Then read each of the following items and fill in the number to the left of the statement which best describes how you were feeling in your spouse's presence.

At the top of each page is a statement which is to precede each of the items on that page. Precede the reading of each item with that statement; it will aid you in recalling the presence of your spouse.

There are no right or wrong answers since different people react differently to the same person. What we want you to indicate is the extent to which each item accurately describes what you experienced when you were interacting with your spouse.

Please be sure to fill in the one number which best answers how accurately that item describes what you were experiencing. For example, if an item is **Somewhat** descriptive of your reaction, fill in the number 2 for **Somewhat** descriptive.

Thank you in advance for your cooperation.

1--not at all **3--Moderately so**

2--Somewhat **4--Very much so**

WHEN I AM WITH THIS PERSON HE/SHE MAKES ME FEEL...

1.___ bossed around.

2.___distant from him/her.

3.___ superior to him/her.

4.___ important.

5.___ entertained.

6.___ impersonal.

7.___like an intruder.

8.___ in charge.

9.___ appreciated by him/her.

10.___ part of the group when he's/she's around.

11.___ cold.

12.___ forced to shoulder all the responsibility.

13.___ needed.

14.___ complimented.

15.___ as if he's/she's the class clown.

16.___annoyed.

17.___embarrassed for him/her

18.___ frustrated because he/she won't defend his/her position.

19.___ loved.

20.___ taken charge of.

21.___ defensive.

22.___curious as to why he/she avoids being alone.

23.___ dominant.

24.___ welcome with him/her.

25.___ as important to him/her as others.

26.___ like an impersonal audience.

27.___ uneasy.

28.___ as though he/she should do it himself.

29.___ admired.

30.___ like I'm just one of many friends.

1--not at all **3--Moderately so**

2--Somewhat **4--Very much so**

WHEN I AM WITH THIS PERSON HE/SHE MAKES ME FEEL THAT...

1.___ I want to tell him/her to give someone else a chance to make a decision.

2.___I should be cautious about what I say or do around him/her.

3.___ I should be very gentle with him/her.

4.___ I want him/her to disagree with me sometimes.

5.___ I could lean on him/her for support.

6.___ I want to put him/her down.

7.___ I'm going to intrude.

8.___ I should tell him/her to stand up for himself/ herself.

9.___ I can ask him/her to carry his/her share of the load.

10.___ I could relax and he'd/she'd take charge.

11.___ I want to stay away from him/her.

12.___ I should avoid putting him/her on the spot.

13.___ I could tell him anything and he/she would agree.

14.___ I can join in the activities.

15.___ I want to tell him/her he's/she's obnoxious.

16. ___ I want to get away from him/her.

17.___ I should do something to put him/her at ease.

18.___ I want to point out his/her good qualities.

19.___ I shouldn't hesitate to call on him/her.

20.___ I shouldn't take him/her seriously.

21.___ I should tell him/her he's/she's often quite inconsiderate.

22.___ I want to show him/her what he/she does is self-defeating.

23.___ I should tell him/her not to be so nervous around me.

24.___ I could ask him/her to do anything.

25.___ I want to ask him/her why he/she constantly needs to be with others.

26.___I want to protect myself.

27.___ I should leave him/her alone.

28.___I should gently help him/her begin to assume responsibility for his/her own decisions.

29.___I want to hear what he/she doesn't like about me.

30.___I should like him/her.

1--not at all **3--Moderately so**

2--Somewhat **4--Very much so**

WHEN I AM WITH THIS PERSON IT APPEARS TO ME THAT...

1.___ he/she wants to be the center of attention.

2.___ he/she doesn't want to get involved with me.

3.___he/she is most comfortable withdrawing into the background.

4.___ he/she wants to pick my brain.

5.___ he/she carries his/her share of the load.

6.___ he/she wants me to put him/her on a pedestal.

7.___ he'd/she'd rather be alone.

8.___ he/she thinks he/she can't do anything for himself/herself.

9.___his/her time is mine if I need it.

10.___ he/she wants everyone to like him/her.

11.___ he/she thinks it's every man for himself.

12.___ he/she thinks he/she will be ridiculed if he/she asserts himself/herself with others.

13.___ he/she would accept whatever I said.

14.___ he/she wants to be helpful.

15.___ he/she wants to be the charming one.

16.___ he's/she's carrying a grudge.

17.___ he's/she's nervous around me.

18.___ whatever I did would be okay with him/her.

19.___ he/she trusts me.

20.___ he/she thinks other people find him/her interesting, amusing, fascinating and witty.

21.___He/she weighs situations in terms of what he/she can get out of them.

22.___he'd/she'd rather be left alone.

23.___he/she sees me as superior.

24.___he's/she's genuinely interested in me.

25.___ he/she wants to be with others.

26.___he/she thinks he's/she's always in control of things.

27.___as far ass he's/she's concerned, I could just as easily be someone else.

28.___he/she thinks he/she is inadequate.

29.___he/she thinks I have most of the answers.

30.___ he/she enjoys people.

APPENDIX L

RECEIPT FOR PAYMENT FOR PARTICIPATION

Receipt for payment for participation in Marital Communication Research Study

I, _____, received the sum of
(name of participant)
_____ dollars for the participation of myself and
(amount)
my spouse in a research study conducted by Deanne Day and/or Debra Kowalik, in conjunction with Dr. Ian Gotlib, Department of Psychology, University of Western Ontario.

Signature of participant_____

Signature of witness_____

Date_____

APPENDIX M

DISCUSSION CODING MANUAL

Coding Manual

Interaction Coding System (ICS)

Halweg,K. & Conrad, M.

September 1983

Modifications by D.Kowalik, 1986

DESCRIPTION OF ICS

Coding Unit This basic unit is a verbal response which is homogeneous in content without regard to its duration or syntactical structure. For each content code a nonverbal rating (negative, neutral, positive) is assigned (Gottman, 1979). In case of a sequence of codes for one speaker, a listening code (LIS) with the nonverbal rating is assigned to the listener, thus guaranteeing alternate coding.

Abbreviated Description of Categories

A) Positive Codes

1. Positive Self-Disclosure (SDP) is a statement of favorable evaluation or prediction concerning the speaker's wishes, feelings or behavior relating directly toward the self.

2. Positive Solution

a) Positive Solution- Constructive (PSN) is a specific suggestion or proposal which constructively contributes to the change of a problematic situation or prevents a negative situation.

b). Positive Solution- Compromise (PSM) is a statement of negotiation of mutually exchanged behaviors.

c). Positive Solution- Non-specific (PSV) is a solution in non-specific terms, often suggesting a desired outcome rather than an actual plan.

3. Acceptance

a). Acceptance- Paraphrase (ACP) is a statement which mirrors or summarizes the spouse's previous statements in an attempt to understand or accept the spouse's point of view.

b). Acceptance- Question (ACQ) is a question about the feelings or internal state of the partner showing interest.

c). Acceptance- Feedback (ACF) is a statement showing enjoyment or appreciation of the partner including thanks and compliments.

d). Acceptance- Concern (ACC) is a statement indicating caring and/or understanding.

4. Agreement

a) Direct Agreement (AGD) is a statement of agreement with the spouse's views, requiring some preceding point of view to have been expressed, with which the person agrees.

b) Accept Responsibility (AGR) is coded when a person explicitly accepts the responsibility for a past or present problem.

c) Assent (AGS) is a brief verbal response indicating that the person is listening.

5. Meta-communication- Positive (MCP) is a favorable statement which is about the interaction process, including redirecting conversation back on topic, commenting on previous statements or requests for clarification.

B) Neutral Codes

6. Problem Description

a). Problem Description (PDD) is a statement discussing any opinions, attitudes, evaluations, or any other thoughts of the speaker, directly related to a problem.

b). Problem Description- Question (PDQ) is an informational question about thoughts, opinions, attitudes or behavior related to the problem being discussed.

7. Rest (RC) is any statement that cannot be coded because it is inaudible, irrelevant or unintelligible.

8. Meta-communication- Neutral (MCO) is a nonevaluative statement which is about the interaction process, including redirecting conversation back on topic, commenting on previous statements or requests for clarification.

9. Neutral Self-Disclosure (SDO) is a non-evaluative statement or prediction concerning the speaker's wishes, feelings or behavior relating directly toward the self.

C) Negative Codes

10. Critique

a). Critique- Specific (CRS) is a negative remark or question, expressing refusal or condemnation of the other's behavior

b). Critique- Devaluation (CRD) is a negative statement about the spouse including accusations and insults.

11. Negative Solution

a). Negative Solution- Stop (NSS) is a statement in which the speaker demands the other do or not do something.

b). Negative Solution- Destructive (NSD) is an unacceptable suggestion to a problem, often functioning as an attack or blocking discussion.

c). Negative Solution- Non-specific (NSV) is a vague statement suggesting an unacceptable solution to a problem.

12. Justification

a). Justification- Excuse (JUE) is a defensive statement which attempts to justify or explain some behavior, arguing that the behavior was allright.

b). Justification- Deny responsibility (JUD) is a statement which explicitly conveys that the speaker does not accept responsibility for a past or present problem.

13. Disagreement

a). Direct Disagreement (DGD) is a statement of disagreement with the spouse's viewpoint.

b). Disagreement- Yes,...but (DGY) is a statement of qualified agreement or apology.

c). Disagreement- Short (DGS) is a short objection which clearly indicates disagreement or doubt.

d). Disagreement- Blocking (DGB) is a statement which intends to end the discussion or silence the partner.

14. Meta-communication- Negative (MCN) is a critical or negative statement which is about the interaction process, including redirecting conversation back on topic, commenting on previous statements or requests for clarification.

15. Mindreading (MR) is a statement which assumes or attributes certain feelings, opinions, or motives solely to the spouse.

16. Negative Self-Disclosure (SDN) is a statement of unfavorable evaluation or prediction concerning the speaker's wishes, feelings or behavior relating directly toward the self.

Nonverbal Codes. All of the foregoing content categories receive a nonverbal rating (see Gottman, 1979). In a hierarchical order, first the voice cues and then the facial cues of the speaker or listener are evaluated as positive, neutral or negative. If the coder is unable to code the utterance as positive or negative, the body cues are scanned and then the appropriate rating is applied.

Reduction of Categories

Reduction is based on content and yields the following codes:

1. Positive interaction (PI) includes positive self-disclosure, positive solution, acceptance, agreement and positive meta-communication.

2. Neutral interaction (OI) includes neutral self-disclosure, problem description, neutral meta-communication and rest.

3. Negative interaction (NI) includes critique, negative solution, justification, disagreement, negative self-disclosure, negative meta-communication and mindreading.

Coding Instructions

1. Observation unit. The observation units are not limited by time, but rely on the unity of their content (thought unit). These units could consist of a word, a sentence or a longer description, as long as the content is constant. It often happens that a partner's contribution is classified into several content units.

2. The nonverbal category +, - or Ø is added as an index to each verbal category. To reach the utmost objectivity in nonverbal categories, you must make sure not to use your own system of references, but the examples in the reaction categories "face", "voice" and "body" as exclusive indicators of the coding.

3. An alternating sequence is retained. It frequently happens that the contribution the speaker makes fits into several coding units. However, 2 codes of one partner should never succeed one another. After each code of partner A, a code for partner B should follow. If partner B is sitting silently, that code will be LIS, which has also been given a nonverbal index. Codes for both partners should not occur at the same time.

Coding Categories and Examples

A) Positive Codes

1. Positive Self-Disclosure (SDP) is a statement of favorable evaluation or prediction concerning the speaker's wishes, feelings or behavior relating directly toward the self. Feelings are defined as the immediate emotional experience of the speaker which could lie in the past, present or future. The emotion can be expressed by using nouns, verbs or adjectives. Physical or mental condition can be described. Signs for direct forms are: the "I" use by the speaker, the exact description of a feeling, use of verbs such as wanting or wishing, or revealing statements about the speaker.

Examples:
"I am always glad when we have company."
"I feel great today."
"I love you."
"I used to be a good skater".
"I would be happy if you could get the weekend off work".

Boundaries to SDP:
Mark-off to AC: If remarks follow a partner's proposals or statements and give feedback to the partner, they belong in AC.
Example: "I enjoyed what you just said".(ACF)
Mark-off to PS: If a wish is uttered as a suggestion or proposal to a problem being discussed, it should be coded as a positive suggestion.

Example: "I would like to go out with you for dinner once a month".(PSN)
Mark-off to PDD: SDP is used only for feelings or opinions of oneself. If a person states what he wants from another person, or speaks for another person, it should be coded PDD.
Examples: "My mother really likes you".(PDD)
"It would be nice if you won".(PDD)

2. Positive Solution

a) Positive Solution- Constructive (PSN) is a specific suggestion or proposal which constructively contributes to the change of a problematic situation or prevents a negative situation.

Examples:
"Let's keep a list of all expenses in the future."
"From today on, I will wash the dishes every night."
"We should try to talk about our problems as soon as they arise from now on."

b). Positive Solution- Compromise (PSM) is a statement of negotiation of mutually exchanged behaviors.

Examples:
"I will wash the floors, if you mow the lawn."
"While you are taking the kids out for a walk, I will tidy up the house."

c). Positive Solution- Non-specific (PSV) is a solution in non-specific terms, often suggesting a desired outcome rather than an actual plan.

Examples:
"Let's just be happy."
"We'll just have to stay in the budget".
"I'll just have to be more consistent."
"We need to communicate better."

Mark-off to MC: Remarks which are geared towards finding a solution, but don't really offer one and concern the way the couple is negotiating.
Example: "We have to find a solution." (MCP)

3. Acceptance includes statements which relate to the other's statements in an understanding and accepting way.

a). Acceptance- Paraphrase (ACP) is a statement which mirrors or summarizes the spouse's previous statements in an attempt to understand or accept the spouse's point of view.

Examples:
"So you got very upset."
"To put it in a few words, you're tired of the way things are."
"I understand that you would like your vacation time more

regulated."

Mark-off to PDD: If the speaker is merely repeating a statement of fact made in the previous speech, code as PDD.

b). Acceptance- Question (ACQ) is a question about the feelings or internal state of the partner showing interest.

Examples:
"Do you think I react too harshly in such situations?"
"Could it be that you were angry at the time?"
"Are you feeling better now?"
"Do you really feel comfortable with that compromise?"

Mark-off to PDQ: PDQ questions are more content oriented. PDQ questions tend to be more factual or cognitive/rational.
Examples: "What do you think of my suggestion?"(PDQ)
"Why is it that the children are doing worse in school?"(PDQ)

c). Acceptance- Feedback (ACF) is a statement showing enjoyment or appreciation of the partner including thanks and compliments.

Examples:
"I'm grateful that you've helped so much lately."
"I like how you've been handling the kids."
"You look wonderful today."

d). Acceptance- Concern (ACC) is a statement indicating caring and/or understanding for the partner's experience.

Examples:
"I can imagine that you would be sad now."
"I understand how overworked you are and how it's hard to find time for us anymore."
"The whole thing seems to be overwhelming for you."

Mark-off to PDD or CRS: Do not code as ACC speeches beginning with "I understand", if it is clear that the speaker is not truly accepting or understanding the other.
Examples: "I understand what you mean." (PDD)
"I understand you're yelling,but why do you have to yell so loud?" (CRS)

4. Agreement

a) Direct Agreement (AGD) is a statement of agreement with the spouse's views, requiring some preceding point of view to have been expressed, with which the person agrees. A direct repetition of the previous speech does not constitute agreement.

Examples:
"I completely share you're opinion."
"You are absolutely right."

"I feel the same way."

b) Accept Responsibility (AGR) is coded when a person explicitly accepts the responsibility for a past or present problem. Any apologetic statement or acceptance of criticism is also coded AGR. The speaker needs to clearly admit responsibility, not merely agree with the partner.

Examples:
"I should have done that."
"I'm sorry I forgot to pick up the groceries."
"The fight was my fault."

c) Assent (AGS) is a brief verbal response, which usually is not more than three words, indicating that the person is listening. If a person precedes a speech with "okay", but that is not meant as an agreement, do not code it as AGS›

Examples:
"Okay."
"That's right."
"Yes."

Mark-off to PDD: If the agreement is not clear, do not code AGD or AGS.
Example: "Maybe that's true." (PDD)

5. Meta-communication- Positive (MCP) is a favorable statement which is about the interaction process, including redirecting conversation back on topic, commenting on previous statements, demanding role changes, suggesting topics or requests for clarification.

Examples:
"I really like the way we're discussing this problem."
"I think we just reached a solution."

B) Neutral Codes

6. Problem Description

a). Problem Description (PDD) is a statement discussing any opinions, attitudes, evaluations, or any other thoughts of the speaker, directly related to a problem. Such statements may acknowledge the existence of a problem, may describe the nature of the problem, or the causes or consequences of the problem.

Examples:
"I think there is a problem with the kids."
"The kids run around like crazy, without any discipline."
"I think it's because we don't talk enough."
"I think it's still a problem, but it's getting better."
"It's a problem because your mother interferes too much."

b). Problem Description- Question (PDQ) is an informational question about thoughts, opinions, attitudes or behavior related to the problem being discussed.

Examples:
"What would you like to do about it?"
"Would you like to go skiing again?"
"Do you think we should go out more often?"
"What happened at work today?"

Mark-off to ACQ: Questions about feelings or internal states are coded ACQ.
Example: "How are you feeling about that?"

7. Rest (RC) is any statement that cannot be coded because it is inaudible, irrelevant or unintelligible. These include cut-off sentences.
Examples:
"Uh, well I just..."
"I'm not...why don't.."

8. Meta-communication- Neutral (MCO) is a nonevaluative statement which is about the interaction process, including redirecting conversation back on topic, commenting on previous statements, demanding role changes, suggesting topics or requests for clarification.

Examples:
"What did you say?"
"Let's get back on topic."
"I couldn't hear you."
"I would like to add something to that."
"May I interrupt?"
"What should we talk about?"

9. Neutral Self-Disclosure (SDO) is a non-evaluative statement or prediction concerning the speaker's wishes, feelings or behavior relating directly toward the self.

Examples:
"I feel okay."
"I'm going shopping tomorrow."
"I've gone sailing before."

C) Negative Codes

10. Critique

a). Critique- Specific (CRS) is a negative remark or question, expressing refusal or condemnation of the other's behavior. These may be accusations or reproaches and may be expressed in the form of a question.

Examples:
"You left dirty dishes all over the house again."
"And you think there's nothing wrong with that?"
"After work you never come right home."
"It was your fault for forgetting to help."

Mark-off to CRR: Remarks regarding character traits in general are coded CRR.
Example: "You are just plain messy."(CRR)

b). Critique- Devaluation (CRR) is a negative statement about the spouse including accusations and insults. These are often about attributes or character traits.

Examples:
"You are stupid and lazy."
"Your taste stinks."
"You will never amount to anything."
"It's all your fault."

11. Negative Solution

a). Negative Solution- Stop (NSS) is a statement in which the speaker demands the other do or not do something.

Examples:
"You should spend less time drinking."
"You shouldn't bring the work home."
"I don't want you to ever do that again."
"Stop smoking."

b). Negative Solution- Destructive (NSD) is an unacceptable suggestion to a problem, often functioning as an attack or blocking discussion.

Examples:
"Then let's just get a divorce."
"Well, I just won't talk about it anymore then."
"If we can't decide, we won't do anything."

c). Negative Solution- Non-specific (NSV) is a vague statement suggesting an unacceptable solution to a problem.

Examples:
"Let's just forget it."
"We'll never find a solution."

12. Justification

a). Justification- Excuse (JUE) is a defensive statement which attempts to justify or explain some behavior, arguing that the behavior was allright, usually with regards to a specific incident.

Examples:
"I have the right to do it because you did."
"I don't talk at night because I work so hard all day."
"I flirted with him because you were busy."

Mark-off to AGR: If a person accepts responsibility for his behavior and then proceeds to explain it, code AGR.

b). Justification- Deny responsibility (JUD) is a statement which explicitly conveys that the speaker does not accept responsibility for a past or present problem and usually follows a PD or CR of the other partner.

Examples:
"Well, that isn't my job."
"I never agreed to do it."

Mark-off to DGD/CRS: Denial or criticism alone aren't enough to be considered JUD.
Examples: "I didn't say that."(DGD)
"It isn't nice of you to blame me."(CRS)

13. Disagreement

a). Direct Disagreement (DGD) is a statement of disagreement with the spouse's viewpoint, or negation of a question. An opposing proposition may be stated or a demand ignored.

Examples:
"I don't believe that."
"No, I won't be home for supper."
"I don't want to."
"I think it would be better to wait."

b). Disagreement- Yes,...but (DGY) is a statement of qualified agreement or apology.

Examples:
"You're right, but financially it's impossible."
"Okay, but only if you stay on topic."
"Yes, but I don't think I can make it."

c). Disagreement- Short (DGS) is a short objection which clearly indicates disagreement or doubt.

Examples:
"No."

"Is that so?"
"Really?"

d). Disagreement- Blocking (DGB) is a statement which intends to end the discussion or silence the partner.

Examples:
"I don't know."
"I forget."
"Keep it to yourself."
"Stop it, I've had enough."
"Don't bother me with that."

14. Meta-communication- Negative (MCN) is a critical or negative statement which is about the interaction process, including redirecting conversation back on topic, commenting on previous statements, demanding role changes, suggesting topics or requests for clarification.

Examples:
"We're off-topic."
"You never let me talk."
"I don't think we're getting anywhere."

15. Mindreading (MR) is a statement which assumes or attributes certain feelings, opinions, or motives solely to the spouse.

Examples:
"You hate my mother."
"You don't care about how we live."
"You always like driving."
"You think I'm stupid."

16. Negative Self-Disclosure (SDN) is a statement of urfavorable evaluation or prediction concerning the speaker's wishes, feelings or behavior relating directly toward the self.

Examples:
"I feel lousy."
"I hate noisy parties."
"I was really sad when I heard about it."
"I don't like bowling."

Listening Code (LIS)

This code was mostly created for technical reasons to keep the alternating sequence on a continuing basis. LIS represents the nil category for the verbal area and like all other categories is combined with the corresponding nonverbal category.

Nonverbal Categories

In each observation unit, the nonverbal behavior of both the speaker and listener is coded as positive (+), neutral (0) or negative (-), using a hierarchical system. The hierarchy for evaluation of nonverbal behavior is as follows:

1. Facial expressions or movements
2. Voice tone
3. Body posture and behavior.

If affect cannot be determined from the face, the voice is assessed; if not from the voice, the body is assessed. If positive or negative attributes cannot be detected, the unit is coded neutral.

If a person's baseline behavior is clearly positive or negative throughout the interaction, code him/her as such. DO NOT CONSIDER BASELINE BEHAVIOR AS NEUTRAL.

CATEGORY	POSITIVE	NEGATIVE
FACE	smile	bored
	sympathetic expression	disinterested expression
	attentive expression	frowning
	concerned	mocking
		scared expression
		crying
		sneer
		angry expression
		expression of disgust
		rigid gaze
		looking away
VOICE	supportive	cold
	warm	tense
	soft	afraid
	tender	impatient
	relieved	tough
	participating	piercing
	compassionate	staccato
	interested	lamenting
	touched	accusing
	lovable	sarcastic
	content	outraged
	encouraging	angry
	animated	screaming
	gay	offensive
	giggling	depressed
	happy	condemning
	pleased	scornful laugh
	laughing	whining
		complaining
BODY	touching	threatening arm position
	narrowing the distance	tense neck
	opened arms	clenched hands
	alert body posture	harsh, rude gestures
	relaxed	devaluating hand movements
	leaning forward	moving away
		tense hand and feet movements