

DIFFERENCES IN MALE AND FEMALE DEPRESSION:
INVESTIGATION OF A SOCIAL INTERACTIONAL MODEL

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Thesis submitted to the Faculty of the
Virginia Polytechnic Institute and State University
in partial fulfillment of the requirements for the degree of
MASTER OF SCIENCE

in

Psychology

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September, 1985
Blacksburg, Virginia

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(ABSTRACT)

Findings of higher incidence of depression among females have spurred research examining differences in the etiology and maintenance of male and female depression. A variety of differences have been identified including behavioral, cognitive, and environmental responses. Recently, increasing attention has been directed toward the importance of social interactional factors in depression. However, this research has been contradictory and inconclusive. The purposes of the current investigation were to further explore social interactional factors using face-to-face interactions between depressed and nondepressed individuals and to explore the applicability of a social interactional model to observed differences in male and female depression. Depressed and nondepressed subjects were assigned to interact with same or opposite sex partners. The twenty minute interactions were videotaped and scored by a behavioral coding system. Subjects completed ques-

tionnaires concerning perceptions of their partner and the interaction. Results indicated that depressed and nondepressed subjects behaved similarly during the interactions. However, depression was associated with fewer initiations and more somatic complaints. Depressed subjects reported improved mood following interactions. No differences were found between males' and females' self-report of depression. However, males reported greater negative affect before and after interactions. Partner impressions differed based upon group placement. Females interacting with females were viewed most positively while males interacting with males were viewed most negatively. Sex, and not depression status, appeared to account for these differences. Implications are discussed in terms of support for behavioral and cognitive theories and alterations of the social interactional model.

ACKNOWLEDGMENTS

I would like to express my appreciation to the many people who contributed to the completion of this project. Special thanks go to my chairperson, Dr. Cynthia Baum, who has given generously of her expertise, time, and patience over the past two years. Her encouragement and support have enabled me to grow both professionally and personally. I would also like to thank my committee members, Drs. George A. Clum, and Thomas H. Ollendick, whose helpful suggestions and feedback greatly improved this study.

I also appreciate the help of Katie Bechtel, Ruth Townsley, and Mike Cobler who served as undergraduate coders and Teresa Meade who assisted with data collection.

A special thank you goes to Patti Lou Watkins for her friendship, love, and humor. Finally, I would like to thank the three individuals who have most significantly impacted upon my personal and professional development. My parents, Jim and Virginia Woodruff, have always given unselfishly of their support, encouragement, time, and love. My husband Jeff's love and patience have been constant sources of strength and encouragement during the completion of this project and throughout our life together.

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INTRODUCTION

A consistent, yet puzzling finding in the depression literature is the elevated rate of women reporting and expressing depressive symptoms. The estimations of female to male ratios vary from 2:1 to 3:1 (Al-Issa, 1980; Belle & Goldman, 1980; Silverman, 1969; Weissman & Klerman, 1977, 1980). Weissman and Klerman (1977), in a comprehensive review, suggest that this ratio has been fairly constant over a 40 year time period. Additionally, they note that the rates are higher for women than for men in every age group.

These findings have spurred a body of research examining differences in the etiology and maintenance of male and female depression. This literature will be reviewed below. Early theories focused upon behavioral differences between depressed males and females (Phillips & Segal, 1969). Inconsistencies in this research led investigators to examine additional factors such as cognitive differences between depressed males and females (Baucom, 1983) and differential environmental responses (Hammen & Peters, 1977). A variety of differences have been identified.

Based upon these differences, researchers have attempted to account for the elevated incidence of female

depression. However, difficulties within the current literature do not support making such an inference from observed differences to causal explanations of incidence differences. For example, much of the previous research has relied on confederates or scripted role-play designs. Male depressive behavior has yet to be examined directly. Importantly, by focusing on accounting for the incidence rates, researchers have neglected, to some extent, fully exploring actual differences in depressed males and females.

The purpose of the current study is to further explore observed sex differences and to provide a new social interactional context in which to view these differences.

Sex Differences in Behavioral Responses

An early explanation of sex differences in depression focused on differences in the self-report of males and females (Weissman & Klerman, 1977). Known as the artifact hypothesis, this explanation maintains that the prevalence of male and female depression is equal. The differential rate is created by females' higher frequency of expression and help-seeking rather than perception, acknowledgment, and higher frequencies of depression per se (Phillips & Segal, 1969). According to this reasoning, fe-

male overrepresentation in clinical surveys is in part a sampling error.

To overcome this difficulty, Weissman and Klerman (1977) recommend community surveys which involve questioning a random cross-section of the population while ensuring anonymity. Ideally, this yields more complete disclosure from subjects. Following Weissman's and Klerman's recommendations, such surveys (Gaitz & Scott, 1972; Weissman & Klerman, 1980) find that females are still more likely than males to report being depressed, thus offering support for some form of actual sex differences in depression.

Amenson and Lewinsohn (1981) examined potential sex differences in help-seeking behavior. Contrary to the predictions of the artifact hypothesis, no differences were found between men and women who reported equal levels of depressive symptoms in terms of treatment seeking or self-labeling. The above studies do not support the artifact hypothesis. Rather, they support a sex difference in the self-report of symptoms. However, males and females do not seem to differ in terms of help-seeking behavior.

Researchers have also examined behavioral differences in male and female response to their environment. The literature relating stress and depression (Billings,

Cronkite, & Moos, 1983; Paykel, 1979), proposes that women are more likely to be at risk for developing depressive symptomatology as a result of more stressful lives. Women, because of their lower social status, are assumed to be faced with a number of stressors that they lack power to overcome. Radloff (1975) extended this theory to the young, lower class, and poorly educated. The lack of social power becomes the common denominator for depression formation. Although this model has intuitive appeal and could be further extended to explain other minority group depression (e.g. the elderly), there are several problems. First, this is a fairly static explanation that does not account for the constancy of sex differences in the incidence of depression over the past 40 years. Considering the extent of societal change, with women's status being an integral part of that change, it would be logical to assume changes in patterns of depression as well. Secondly, Billings and Moos (1984) reported slight differences between male and female functional responses to stress. The difference lies not in the level of stress nor in the ability to cope, but in the chosen coping method. Thus, although levels of stress may be similar, males and females may respond with different behaviors. Finally, Amenson and Lewinsohn (1981) cogently discussed the experi-

mental bias inherent in this explanation. Women have been assumed to occupy a lesser status, which would imply powerlessness and dissatisfaction. Amenson and Lewinsohn examine role satisfaction to avoid imposing their value of status. In doing such, they find no relationship between levels of depression and psychosocial variables such as satisfaction with self, family, job, friends, and neighborhood. Counter to the hypothesis relating stress and depression, women report greater role satisfaction yet more depression.

The above models used to explore sex differences in depression lack not only in empirical validation, but omit theoretically relevant variables. For example, these explanations tend to focus on only "person variables" such as the individual's self-report or perceived level of stress. A more comprehensive approach to the issue of sex differences in depression should include both person and environment variables. This would involve the intrapersonal, interpersonal, and "social aspects and consequences of depression" (Hammen & Peters, 1978, p. 322). Researchers in depression have begun to consider these social factors. However, these theories have not yet addressed themselves adequately to sex differences. These theories of depression and their applicability to observed

sex differences will be discussed below.

Ferster (1973, 1974) formulated a behavioral approach to depression which was later extended by Lewinsohn and his colleagues (Amenson & Lewinsohn, 1983; Lewinsohn, 1974; Youngren & Lewinsohn, 1979). This formulation focuses on the rate of contingent reinforcement as an explanation of depression. Ferster's (1974) approach examines the functional behavior of the depressive in terms of passivity and reduction of positively reinforced behaviors. Individuals who have limited response repertoires and fail to generate alternative adaptive behaviors are considered to be most prone to depression. The result for these individuals is a limited amount of behavior capable of receiving positive reinforcement along with aversive consequences for inappropriate responses (Gilbert, 1984). It would appear that Ferster's model should include examination of the environment in terms of the consequences of the depressed individuals behavior. Yet, Ferster explains "we cannot assume the depressed person actually sees very much of the features of the social world around him" (Ferster, 1973, p. 862).

Lewinsohn and his colleagues attribute the behavior of the depressed person to lack of appropriate skills defined as the skills necessary to receive positive rein-

forcement from others. In examining the maintaining factors in depression, this hypothesis states that individuals who receive less response contingent reinforcement will experience a greater likelihood of depression (Amenson & Lewinsohn, 1981). Lewinsohn, Youngren, and Grosscup (1979) state that depressed women will receive less response contingent reinforcement. Yet, they do not address why this is so. Instead, they base this hypothesis on the data that there are more depressed women than men. Therefore, logically, women should have lower rates of positive reinforcement. This results in circular reasoning without clear delineation of causal variables.

Direct empirical support for relating response contingent reinforcement and depression is scarce. Libet and Lewinsohn (1973) find that depressives emit interpersonal behaviors at a rate of approximately one-half that of non-depressives. Yet, in the same study, males had a more restricted interpersonal range defined as the number of individuals with whom the depressive interacts. Furthermore, consequences of those behaviors emitted were not assessed, thus failing to clarify the issue of environmental response versus social skills deficit. Youngren and Lewinsohn (1980) examined social skills in more de-

tail, identifying 4 factors uniquely related to depression. Comparing normals, psychiatric controls, and depressives, the depressed group: (a) engaged in less social activity and reported greater discomfort and less enjoyment from engaging in such; (b) reported greater discomfort being assertive along with low levels of reinforcement from such; (c) reported more negative thoughts about interactions; and (d) were rated by themselves, peers, and observers as deficit in interpersonal style. However, no sex differences were found. Also contrary to this explanation of sex differences, Amenson and Lewinsohn (1981) found that depressed women reported engaging in more activities and reported greater enjoyment of these activities.

The behavioral approach has provided evidence of decreased social involvement of depressives as a group. However, predictions concerning depressed male and female behavior have not been supported. Depressed women appear to engage in more social interactions and report enjoying these interactions more than do depressed males. Also, sex differences in social skill deficits have not been demonstrated. The failure to support the behavioral hypothesis may be due in part to methodological weaknesses. Although the behavioral approach seems to examine inter-

actions, methodologically it examines only the depressives' behavior or others' perceptions of that behavior. Important variables which appear to be omitted are the effect of the individual's expectations and the nature of the interaction. For example, the influence of the depressed person's perceptions as well as the perceptions and behaviors of others have not been addressed.

Cognitive Approaches

Various cognitive theories have attempted to address the issue of depressed individuals' self perceptions, perceptions of others, and perceptions of the environment (Beck, 1967; Seligman, 1975). The theory of learned helplessness proposes that an individual learns that outcomes are independent of responses (Seligman, 1974). In the reformulated version (Abramson, Seligman, & Teasdale, 1978), the individual makes an attribution regarding the causality of this loss of control over contingencies. Abramson and her colleagues (1978) hypothesized that depression-prone people attribute negative outcomes to internal, stable, and global causes whereas nondepressed people attribute similar outcomes to external, unstable, and specific causes. The depression-prone attributions result in cognitive, behavioral, and affective deficits analogous to depressive

symptomatology. These include passivity, vegetative changes (e.g. weight and appetite), social and sexual deficits, cognitive disturbances, and dysphoria (Garber, Miller, & Seligman, 1979).

Using learned helplessness as an analog to depression, researchers have attempted to examine differences in male and female depression. Baucom and Danker-Brown (1979) and Baucom (1983) compared the degree of helplessness of sex-typed versus androgynous and undifferentiated individuals. Baucom (1983) divided subjects into high masculine (androgynous and masculine sex-typed) and low masculine (undifferentiated and feminine sex-typed). Using only female subjects, low masculine women were shown to display more helplessness following experimental manipulation than high masculine women. The authors proposed that women low on masculinity are most likely to experience a loss of control. They thus develop depression-like symptoms (Baucom, 1983). The lack of control in a masculine oriented society becomes the precipitator for depression formation in women. However, there are glaring difficulties with this extension from sex-typed women to cognitive differences in depressed males and females. First, depression does not seem confined to extremely feminine women (Pearlin, 1975; Radloff, 1975). Secondly, grouping female subjects according to

high or low levels of masculinity may not adequately address the depressive responses of the 4 sex role identity groups. Finally, using only female subjects does not address the responses of masculine or feminine sex-typed or androgynous males. Thus, empirical support for learned helplessness as an explanation of differences in male and female depression is tenuous at best.

Beck (1967, 1976) presents another cognitive theory of depression. This theory presents three concepts to explain depression: the cognitive triad, schemata, and cognitive distortions. The cognitive triad is composed of patterns of misinterpretations which lead the depressed to view themselves, their situation, and the future in a negative way despite plausible positive interpretations. Beck uses schemas to explain why these negative perceptions persist. Schemas are described as the basis for coding information based on past experiences. Current experiences are distorted by existing schemas. Although information processing relies on external cues, Beck seems to focus upon the depressives' distortions rather than the environmental feedback (Coyne & Gotlib, 1983).

Only one study attempts to apply Beck's model to cognitive differences in depressed males and females. Amenson and Lewinsohn (1981) predicted that depressed women, as

compared with depressed men, would have greater expectancies for negative outcomes. This was not supported by the authors' results. Although the model's applicability to sex differences has not been explored fully, it seems to suffer the same logical fallacy as the behavioral model. Particularly, only the individual's distortions are examined. Specific interactions with the environment from which distortions may arise are not addressed. To understand the cognitions associated with depression one must understand the information and feedback that the depressed receive. Without an understanding of their available information, it is difficult to determine the extent to which depressed individuals are engaged in accurate perceptions or distortions. Furthermore, depressive thoughts and behaviors occur in a dynamic process, the mechanisms of which are beginning to be elucidated through the study of social interactions.

Social Interactional Model

Much of the impetus in the investigation of interactional processes in depression is derived from Coyne's (1976b, 1983) interactional model of depression. This model proposes that "the behavior of the depressed person becomes interwoven and concatenates with a depressing re-

sponse from others" (Strack & Coyne, 1983, p. 799). Coyne argues that depressive behavior is maintained by others in the environment. In attempting to garner emotional support, the depressive engenders negative responses from others.

The social interactional model is based on five basic assumptions: (1) depressives are not impervious to their environment and the influences of others; (2) depressive symptoms are aversive to others; (3) interacting with depressives arouses hostility, annoyance, and guilt which cannot be directly expressed; (4) the depressive is rejected by others; and (5) the depressive increases depressive symptomatology to test relationships with others which results in increased depressive social processes (Coyne, 1976b). Various of these components of the model and the above assumptions have been empirically tested. Researchers have begun to challenge the notion of the "depressed bias" or distortion of the environment and the feedback of others (Abramson, Alloy, & Rosoff, 1981; Brown & Harris, 1978). Although the data on distortions are mixed such that some studies suggest distortions exist (Smolen, 1978) while others suggest accurate interpretations by the depressed subjects (Lewinsohn, Mischel, Chaplin, & Barton, 1980; Strack & Coyne, 1983), depressives do seem to be

cognizant of their environment. Further, nondepressed individuals may distort positively while depressed individuals interpret accurately (Lewinsohn, Mischel, Chaplin, & Barton, 1980).

The model's next 3 assumptions (that depressives are aversive to others, arouse negative affect, and are subsequently rejected) have been the subject of several empirical investigations. Coyne (1976a) studied the negative affect following an interaction with a depressed subject. Undergraduate college females held telephone conversations with depressed or nondepressed female psychiatric outpatients. Following the conversation, subjects who conversed with depressed outpatients were significantly more anxious, hostile, and depressed than those who conversed with nondepressed patients. These results seem consistent with the hypothesis that depressives are aversive and induce negative affect in others. Strack and Coyne (1983) showed that depressives correctly anticipated more rejection from those with whom they interacted than did nondepressives. The additional finding that the subjects rejected opportunities for future interactions with the depressed individuals provides further support for the model.

Hammen and Peters (1978), using college students to

role-play a depressed or nondepressed role, replicated Coyne's (1976a) results of affective changes in those interacting with the "depressed." These findings also indicated greater rejection of and lack of interest in future interactions with the "depressed" as well as greater perceived role impairment.

Boswell and Murray (1981) investigated Coyne's (1976b) model using taped interviews of hospitalized depressives, schizophrenics, and normal hospital staff. Introductory psychology students listened in groups to the tapes. The students then completed a mood adjective checklist, an attraction questionnaire, and an interpersonal checklist. The authors reported that both schizophrenics and depressives, as compared to normals, arouse dysphoric mood and are subsequently rejected.

Howes and Hokanson (1979) shifted the focus from post encounter reactions, such as rejection of the depressed, to data detailing behavior during the interaction. Using same sex confederate students enacting a depressed, normal, or physically ill role, they reported equal frequency of directly supportive statements to the "depressed" and "ill," exceeding the normal condition. However, subjects interacting with the "depressives" responded with greater frequency of silent periods, directly negative statements,

and lower overall rate of responding. Unlike previous studies (Boswell & Murray, 1981; Coyne, 1976a; Hammen & Peters, 1977, 1978), these authors found no induced affective changes in the subjects. However, this study differed in that it employed face-to-face interactions. The response frequencies provide partial support for Coyne's assumption that the negative perceptions of the depressed are expressed in a mixed manner consisting of both positive and negative statements. Although the higher rate of silences and lower total responses seem to support Lewinsohn's (1974) view that depressives lack the skills to emit behaviors which will be socially reinforced, the depressives receive both directly supportive (presumably reinforcing) as well as directly negative comments. Although some interpersonal skills difficulty seems apparent, perhaps the skills deficit is narrower than Lewinsohn's global conceptualization. Also, the role of environmental response to the depressives' behaviors is more clearly implicated in maintaining such behavior. However, because Howes and Hokanson (1979) used confederates to enact a depressed role, examination of the actual social behaviors of depressed individuals could not be examined.

While they find support for Coyne's (1976b) model, Gotlib and Robinson (1982) discuss the inconsistencies of

previous research in interactional depression. They attribute these to procedural difficulties in the studies since none actually employed face-to-face interactions with truly depressed individuals. The authors indicate that reliance on individuals mimicking depression is an inadequate test of the model. To correct for this difficulty in design, Gotlib and Robinson used actual depressed subjects. Using a sample of female college age subjects, the authors showed a division between self-report of mood and observer ratings. While there were no group mood differences reported following interactions with depressed or nondepressed subjects, there were observed differences during the interaction. Those interacting with the depressed smiled less often, demonstrated less arousal, and discussed more negative than positive content material.

Gotlib and Robinson's (1982) study suggests that interactional effects are not limited to those found with severely depressed individuals. In support of these findings, Strack and Coyne (1983), using all female college students, found negative mood induction following interaction with mildly dysphoric subjects. Additionally, the effects in both studies were found in brief interactions (5-15 minutes) with strangers.

Sex Differences Within Social Interactional Context

Although the social interactive model has yet to be applied to sex differences in depressive behavior, its use is theoretically and logically suggested. Previous research suggests that males and females present extremely diverse patterns of depression on self-report inventories (e.g. BDI: Beck Depression Inventory, Beck, Ward, Mendolson, Mock, & Erbaugh, 1961). Men tend to validate items such as social withdrawal, inability to cry, loss of interest in other people, and somatic complaints. This pattern of response is contrasted with women who tend to endorse items such as frequent crying, social affiliation (specifically with close friends), weight change, and indecisiveness (Hammen & Padesky, 1977). Most critical for the interactional model is the distinction between males' tendency to withdraw and females' tendency to seek affiliation. These interactional differences may reflect either sex differences in depressive symptomatology or attempts to cope with such symptoms.

Investigations of coping style indicate that women are more likely to use emotional discharge such as talking to a friend (Billings & Moos, 1984). Furthermore, an affiliative coping style tends to be judged as the appropriate course of action for women, but not for men (Funabiki,

Bologna, Pepping, & Fitzgerald, 1980). Hammen's and Peters' (1977) case history study suggests that males tend to be rejected for such display. If expression of depressive symptomatology is thought of as inherently feminine, rejection may be based on departure from the stereotypic or expected male role rather than on depression itself (Hammen & Peters, 1977). Hammen and Peters (1978) found that more feminine traits were ascribed to the "depressed" of both sexes. Additionally, the "depressed" were rejected most strongly by subjects of the opposite sex. This finding failed to replicate their previous study which showed greater rejection of depressed males (Hammen & Peters, 1977). The earlier study's procedure may have influenced these results since it required disclosure on the part of both male and female "depressed" confederates. Research looking at gender and patterns of disclosure has indicated that women are more likely than men to disclose personal information (Cozby, 1973). Perhaps rejection for displaying or admitting to depressive symptoms forces men to learn alternative methods of expressing distress. If such is the case, the reasons for rejection of male "depressives" become equivocal. Are they rejected because of their depression or because of the confederates inaccurate portrayal of de-

pressed males?

Reports of rejection of depressed males must be viewed with considerable caution due to methodological weaknesses of the studies. Previous research with males has involved case studies (Hammen & Peters, 1977) or scripted role-plays (Hammen & Peters, 1978). Case studies involve a written description of a depressed individual who is labeled as either male or female. The written descriptions are identical, differing only according to the gender of the individual discussed. Similarly, scripted role-play designs provide subjects with written descriptions of how to behave. These descriptions are identical for male and female confederates. Since the only knowledge of male depressive behavior is self-report (which is clearly different from females' reported behavior), the content of these scripts and case histories may not accurately portray depressed males. The rejection found in previous studies may be based not upon negative perceptions of the depressed male, but upon negative perceptions of an inaccurate stereotype.

The use of the interactional model of depression to explore sex differences is further supported by research examining the attributions of causality. Women tend to hold themselves more responsible for their depression

(Calhoun, Cheney, & Dawes, 1974). Moreover, disclosure of personal problems with an internal source of blame may elicit more negative response than an external attribution (Wortman, Adesman, Herman, & Greenberg, 1976). Thus, consistent with the withdrawal/affiliation distinction, if depressed men do seek interactions with others, there may be differences in the nature of the interaction.

A final aspect of the interaction to be considered is the sex of the individual with whom the depressed interacts. Previous research in this area has indicated that women are, in general, more empathetic and supportive (Hoffman, 1977). Accordingly, Hammen and Peters (1978) suggested that depressed individuals of both sexes are more likely to disclose to women. Research has not yet addressed this idea. However, Hammen's and Peters' research indicates that depressed individuals are more likely rejected by members of the opposite sex. For example, if a depressed male were to disclose his distress to a female partner, this partner would more likely reject this depressed male than reject a depressed female who also disclosed. However, related research suggests that depressed males probably do not disclose to either sexed partner with the same frequency of depressed females (Hammen & Padesky, 1977).

Taken together, these studies suggest that the interactional model may allow a more complete exploration of

male and female depressive behavior. Because men report withdrawing while women seek affiliation and the empathetic ear of a friend, different outcomes are predicted. According to the model, males will not be involved in the escalation or spiralling of depressive symptoms because they generally do not engage in the necessary prerequisite interactive behavior. Conversely, women are expected to engage in interactive behaviors. They are more likely to become involved in the processes of Coyne's (1976b) interactional model as outlined in the above assumptions.

Summary and Rationale

In summary, Coyne (1976b) has presented an interactional model of depression in which the depressed individual presents symptoms which seem aversive to others, others respond with supportive ambiguity, the depressive increases symptoms to validate the relationship, resulting in a spiralling escalation of the interaction.

Components of this model have received empirical support indicating the following: (1) individuals respond in a qualitatively different manner to depressed than nondepressed individuals (Coyne, 1976a; Gotlib & Robinson, 1982); (2) this different manner is manifest in mixed messages (Howes & Hokanson, 1979); (3) the depressed person correct-

ly perceives rejection by others (Strack & Coyne, 1983).

Although elements of the model have been supported, several questions remain unanswered by current research. First, aversive aspects of the interactions with depressed individuals have not been delineated. Some studies do not replicate the conventional changes in anxiety, hostility, and depression. Yet, all report some negative perceptions of or negative behavior toward the depressed. Aversive aspects of the interaction could originate from many sources, including complaints (somatic or psychological), negative evaluations (of self, environment, and/or other individuals including dyadic partner), lack of positive appraisal of interacting partner, lack of inquiries, or lack of appropriate social skills (silences, abrupt topic changes, and excessive self-references).

The second major question currently unanswered by the interactive model involves behavioral differences between depressed males and depressed females. Previous research addressing this issue has relied on inadequate methodologies. Although self-report inventories suggest that depressed males endorse different symptoms than depressed females, observational studies have not been conducted to confirm this self-report data. Studies have involved either case histories, confederate role-play, or

only female subjects. The rejection of depressed males may be an experimental artifact produced by a dearth of knowledge about the depressed male.

An additional area of the interactive model lacking in empirical validation concerns the effect of the sex of the dyadic partner. Previous research provides conflicting results on this issue. This may be due to the methodological difficulties outlined above.

Purposes of the Current Study

The purposes of this investigation were two-fold. The first purpose was to provide information concerning depressed individuals in a social context. The following aspects of a social interaction were considered important: the behavior of both depressed and nondepressed subjects, the impressions of both subjects, their affective changes following the interaction, and the intercorrelation of these measures.

The second purpose was to analyze differences in behavior, impressions, and affect of depressed and nondepressed subjects according to sex and sex of partner. Based on Coyne's (1976b) model, it was expected that depressed individuals would exhibit more aversive behaviors in the interaction and subsequently would be viewed more

negatively by their partner. Based on the research of Billings and Moos (1984) and Hammen and Padesky (1977), it was further expected that depressed males and females could be distinguished based on differences in behavior as well as their effect on others. Previous research and theory suggests that depressed females are likely to impact more negatively than depressed males (Billings & Moos, 1984; Coyne, 1976b). Finally, based upon Hammen's and Peters' (1978) suggestion that depressed individuals of both sexes may disclose more to female partners, the effect of the sex of the partner was also examined.

This investigation included several methodological advantages over previous research in this area. The study relied on behavioral observations of interactions rather than reliance on only self-report. Additionally, this study used mildly depressed individuals rather than confederates and included depressed males who, until now, have been omitted from research in the area. This allowed the investigation of the applicability of a social interactional model for understanding differences in male and female depression.

METHOD

Design

A sample of 80 subjects was composed of 40 males and 40 females. Twenty depressed males and 20 depressed females were assigned to interact with either a same or opposite sex partner yielding a 2 x 2 design with sex and classification of depression (depressed/nondepressed) as between subject factors.

Subjects

Subjects were 80 white undergraduate students of Virginia Polytechnic Institute and State University who received for their participation 2 extra credits toward their psychology course grade. Subjects were selected from a sample of 600 students based on their scores on the Beck Depression Inventory (Beck, Ward, Mendolson, Mock, & Erbaugh, 1961). Beck's suggested cut-off point of ≥ 10 ($\bar{x} = 15.33$) was used to classify 20 male and 20 female depressives and a cut-off of ≤ 2 ($\bar{x} = 0.85$) was used to classify nondepressives. Depression level was matched for males ($\bar{x} = 14.80$) and females ($\bar{x} = 15.75$) to insure equivalence of groups.

Self-Report Measures

The following questionnaires were administered during group testing in the following order:

Demographic questionnaire. Information was collected with regard to the subjects' age, sex, race, socio-economic status, and stressors. (See Appendix A)

Beck Depression Inventory (BDI: Beck, Ward, Mendolson, Mock, & Erbaugh, 1961). The BDI is a 21 item multiple choice self-report measure of cognitive, affective, behavioral, and somatic aspects of depression. Scores can range from 0-63 with 0-9 classified as not depressed, 10-15 as mildly depressed, 16-23 as moderately depressed, and 24-63 as severely depressed (Beck et al., 1961). The BDI has been validated in both psychiatric (Beck et al., 1961) and college populations (Bumberry, Oliver, & McClure, 1978). Using psychiatric assessment as the criterion, Beck et al. reported correlations from .65 to .67. For college populations, the correlation of BDI with psychiatric assessment was .77 with test-retest reliability of .30 (Bumberry et al., 1978). (See Appendix B)

Bem Sex Role Inventory (BSRI: Bem, 1974). The BSRI is a 60 item self-report inventory which yields 4 possible classifications using a median split scoring: Androgynous, Masculine, Feminine, and Undifferentiated. Each item is

rated on a 7 point scale ranging from 1 (never or almost never true) to 7 (always or almost always true). Bem (1974) demonstrated adequate discriminant validity. Internal consistency of the 3 scales ranges from .80 to .86 with a test-retest correlation of .90. (See Appendix C)

State-Trait Anxiety Inventory - state form (STAI: Spielberger, Gorsuch, & Lushene, 1970). The state form of the STAI is a 20 item self-report measure of how the subject feels at the time of administration of the inventory. To be consistent with the BDI, the instructions were amended to how the subject has felt for the last week including the day of testing. Each item is rated on a 4 point scale ranging from 1 (not at all) to 4 (very much so). Spielberger et al. (1970) demonstrated adequate discriminant validity from other measures (.3 to .5). Test-retest reliabilities range from .70 to .90 (Zuckerman & Spielberger, 1976). (See Appendix D)

The following measures were completed in the following order by all 80 subjects selected for the second session:

The Multiple Affect Adjective Checklist (MAACL: Zuckerman & Lubin, 1965). The MAACL contains 193 items and yields 3 scales: Anxiety, Hostility, and Depression. Subjects are asked to check those words which describe how they are feeling. Zuckerman and Lubin (1965) demonstrated construct validity in a variety of situations ranging from

classrooms to relaxation training. Split half reliability measures yield a correlation of .80 (Zuckerman, 1976).

(See Appendix E)

Impact Messages Inventory (IMI: Kiesler, Anchin, Perkins, Chirico, Kyle, & Federman, 1975, 1976). The IMI is a 90 item self-report inventory which measures a subject's affective and cognitive reactions following an interaction with another individual. The items are divided into 15 subscales with 6 items per scale. The subject indicates on a 4 point scale the extent to which each of the items reflects the targeted individual. Construct validity was assessed using factor analysis. Three factors emerged with loadings ranging from .82 to .94. Split half reliability on the 3 factors yielded coefficients ranging from .72 to .95. Measures of internal consistency of the 15 subscales showed high reliability from .80 to .99 (Perkins, Kiesler, Anchin, Chirico, Kyle, & Federman, 1979). (See Appendix F)

Desire for future interactions questionnaire (DFI). Subjects were asked to indicate on a scale of 1 (not at all) to 7 (very much so) if they would like their partner from the interaction as: a close friend, a co-worker on a project, a companion on a 3 hour bus ride, a classmate, someone who marries into their family. Additionally, they were asked if they would be willing to participate in a

third phase of this study with the same partner. They were also asked to complete the same questions indicating how they expected their partner to view them. (See Appendix G)

Procedure

Approximately 600 students were administered pre-testing questionnaires in smaller groups of about 50 per session during the 1985 Winter and Spring quarters. Subjects meeting BDI criteria were contacted within a period of 15 days and asked to participate in Session II. Dyads were determined by randomly arranged appointments for Session II.

Upon arrival for the experiment, subjects were seated together in a lab and told:

This is an initial investigation into social exchange and impression formation. Basically, we are interested in the ways in which two unacquainted individuals get to know each other. Have you met before? I will be asking you to complete several questionnaires before and after your interaction describing yourself and the other individual. You will have 20 minutes to spend together. Feel free to discuss whatever you would like. Your conversation will be videotaped. Do either of you have any objections to that?

Subjects were separated to complete initial MAACL. Additionally, all subjects completed a second BDI. Those

not continuing to meet criteria were excluded. After both subjects completed the forms, the experimenter seated them together in a lab with chairs placed 4-5 feet apart, turned on video equipment, and left the room.

Following the 20 minute interaction, the experimenter returned with another MAACL and an IMI. Subjects were assured of the confidentiality of their responses. The subjects were separated to complete the forms. After completion, they were told the general nature of the study and the reason for deception. They were thanked for their time, asked not to discuss the details of the study with others, and encouraged to contact the experimenter with any further questions.

Behavioral Coding System

Videotapes of the 20 minute interaction between the depressed and nondepressed subjects were coded using a 10 second time sampling procedure. The first 5 minutes were excluded from coding to allow subjects to become acclimated to experimental conditions. A single initiation and response were coded for each interval. Based primarily on content, the verbal behaviors were placed into one of the following categories. Frequencies were converted to percentages to control for amount of interaction. The coding

procedure, based on components from Howes and Hokanson (1979) and Lewinsohn (1976), is as follows:

1. Direct support. Reassuring, sympathetic, or empathetic remarks; any positive appraisal of partner and/or his or her attributes.
2. Conversation maintenance: positive content. Favorable descriptions other than of the partner; for example, assessment or prediction concerning self, hometown, or weather.
3. Conversation maintenance: neutral content. Responses with no evaluative content.
4. Conversation maintenance: negative content. Negative evaluations other than of the partner; description or predictions concerning self, experiment, or school.
 - a) Psychological complaint. Statement reporting past, present, or anticipation of future psychological, mental, cognitive, or emotional discomfort or pain (anxiety, depression, guilt, failure, feelings of hurt, worthlessness, stupidity, feeling deserted, insulted, or empty).
 - b) Somatic complaint. Any statement expressing a discomfort that is attributed by the sub-

ject, or by most people, to a physical cause.

- c) Personal problem. Indicates that the individual has either committed a negative (as judged by the individual) or failed to commit some positive act.
 - d) Other. Miscellaneous negative content conversation maintenance; for example about school, experiment, or weather.
- 5. Direct negative. Punishing or insulting remarks or other expressions of displeasure or disapproval directed to partner.
 - 6. Silences. No verbal response within 5 seconds to a statement or question by partner.
 - 7. Topic change. Introduction of unrelated topic following statement or inquiry by partner.
 - 8. Inquiries. Direct questions addressed to partner.

Reliability

Two advanced undergraduate psychology students were trained in the coding system to a reliability of 80%. Raters met weekly with the experimenters. They were aware of the general nature of the research, but not of the specific design nor hypotheses. They were blind to experimental

conditions and coded from videotapes. Reliability checks were computed on 30% of all observations. Reliability was computed as number of agreements divided by number of agreements plus disagreements. Agreement was defined as identifying the correct initiator, responder, and the behavior of each within the same interval.

RESULTS

Demographics

Table 1 presents the means, standard deviations, and ranges for all demographic information for depressed and nondepressed subjects. Subjects in both groups were similar in age and socioeconomic status. However, they differed significantly in terms of trait anxiety [$t(1,78) = 10.96, p < .01$] and number of recent stressors reported [$t(1,78) = 3.51, p < .01$].

Reliability

Reliability data for the behavioral coding system is presented in Table 2. Utilizing a stringent reliability method (Hartmann, 1977), the coefficients of agreement ranged from .25 to .95, with an overall reliability of .91. Two low frequency behavioral categories, conversation maintenance positive and other conversation maintenance negative, did not meet an acceptable level of reliability. They therefore were excluded from further analyses. Overall reliability, discarding these categories, was recomputed to be .92.

TABLE 1

Subject Characteristics

Demographic measure	<u>Depressed Group</u>			<u>Nondepressed Group</u>			t-test of means
	X	SD	range	X	SD	range	
Age	18.88	3.49	18-29	19.33	2.08	18-29	0.68
Hollingshead SES	49.80	11.82	18-66	52.80	8.47	21-66	1.69
Number recent stressors	1.44	1.80	0-7	0.40	0.59	0-2	3.51*
Trait anxiety	53.03	10.63	30-76	31.45	6.52	22-47	10.96*

Note: * $p < .01$

TABLE 2

Reliability Calculations for Behavioral Data

<u>Behavior</u>	<u>Total frequency</u>	<u>Reliability</u>
Direct support	0	N/A
Conversation maintenance positive	8	.25 ^a
Conversation maintenance neutral	1878	.95
Psychological complaint	0	N/A
Somatic complaint	0	N/A
Personal problem	6	.67
Other negative	28	.36 ^a
Direct negative	0	N/A
Silences	10	.50
Topic change	0	N/A
Inquiry	226	.72
Overall Reliability		.91 ^b

^a unacceptably low reliability

^b new overall reliability (omitting ^a behaviors) = .92

Data Analysis

The results of this study will be addressed in two sections. The first section of preliminary analyses describes the nature of interactions between depressed and nondepressed subjects and examines the relationships between depression status and other experimental measures. The second section addresses the primary analyses of subjects' perceptions of their partners' behavior, impressions of the partner, and affective changes resulting from the interaction.

Preliminary Analyses

Table 3 presents the means, standard deviations, and ranges for behavioral data. Examination of this table indicates that subjects' behaviors were predominately neutral conversation and inquiries. Valenced behaviors, either positive or negative, occurred rarely if at all.

The Beck Depression Inventory was correlated with the behavioral data, demographic scores of both the subject and his or her partner, and the subjects' desire for future interaction. Due to the restricted range of BDI scores, Spearman-rank correlations were computed. These are presented in Table 4. Twenty-three of the forty-five corre-

TABLE 3

Means for Behavioral Data

Behaviors	Mean Percent of Total Intervals	SD	range
<u>Initiations</u>			
Percent initiated (PI)	49.85	16.15	13.00-87.00
Direct support (DS)	0.00	N/A	0.00
Conversation maintenance neutral (CMNI)	42.27	14.38	10.17-76.27
Psychological complaint (PCI)	0.00	N/A	0.00
Somatic complaint (SCI)	0.04	0.22	0.00-1.18
Personal problem (PRI)	0.25	0.67	0.00-3.45
Direct Negative (DNI)	0.00	N/A	0.00
Inquiry (IQI)	6.08	5.79	0.00-25.68
<u>Responses</u>			
Direct Support (DSR)	0.00	N/A	0.00
Conversation maintenance neutral (CMNR)	44.29	13.74	10.17-75.68
Psychological complaint (PCR)	0.02	0.14	0.00-1.23
Somatic complaint (SCR)	0.00	N/A	0.00
Personal problem (PPR)	0.14	0.42	0.00-2.22
Direct Negative (DNR)	0.00	N/A	0.00
Silence (SR)	0.82	2.34	0.00-14.80
Topic change (TCR)	0.01	0.12	0.00-1.11
Inquiry (IQR)	4.07	4.53	0.00-23.17

TABLE 4

Correlation of Dependent Measures With
The Beck Depression Inventory

IMI Scale	Subject r_s	Partner r_s
Dominant	.13	-.39***
Competitive	.16	-.36***
Hostile	.31***	-.67***
Mistrusting	.28***	-.36***
Detached	.17*	-.33***
Inhibited	.11	-.37***
Submissive	.13	-.21**
Succorant	.02	-.38***
Abasive	.02	-.14
Deferent	.01	-.27**
Agreeable	-.14	.02
Nurturant	-.16	.00
Affiliative	.01	-.07
Sociable	.14	-.23**
Exhibitionistic	.13	-.38***

<u>Behaviors</u>	r_s	<u>Measures</u>	r_s
PI	-.27**	Age	-.51***
CMNI	-.28***	STAI	.66***
SCI	.41***	Desire for Future	
PPI	.24**	Interaction (DFI)	.06
IQI	-.14	Expected Partner's	
CMNR	.18*	DFI	-.40***
PCR	.39***		
PPR	.35***		
IQR	.18*		
SR	.13		
TCR	.41***		

*p < .10

**p < .05

***p < .01

lations were significant. However, several of these are expected. For example, the correlation between the BDI and the STAI ($r_s = .66, p < .01$) is supported by a body of previous research. Subjects' Desire for Future Interaction was not related to their Beck Depression scores. However, their perceptions of their partner's Desire for Future Interaction were related to the Beck scores suggesting that as a subject's depression increased, their estimation of partner's desire to interact with them decreased. The BDI also correlated negatively with age ($r_s = -.51, p < .01$) indicating that younger subjects tended to have higher depression scores. Additionally, several subscales of the Impact Message Inventory significantly correlated with depression scores. A higher Beck Depression score was associated with perceiving one's partner as hostile, mistrusting, and detached. Additionally, a higher depression score was associated with being viewed by one's partner as less dominant, less competitive, less hostile, less mistrusting, less detached, less inhibited, less submissive, less succorant, less deferent, less sociable, and less exhibitionistic. However, these perceptions do not appear to present a consistent pattern. For example, the partner is seen as both less inhibited and less exhibitionistic. The Beck scores were significantly correlated with several of the behavioral cate-

gories. A higher BDI score was associated with fewer initiations, fewer neutral initiations, and fewer initiations with inquiries. Also, a higher BDI score was associated with increased somatic complaints, personal problems, psychological complaints, and topic changes.

In order to obtain the best predictors of depression status, a multiple regression analysis was conducted using the Beck Depression Inventory as the criterion variable. Due to the number of predictors entered, a stepwise procedure was employed. Beck Depression Inventory scores were best predicted by a combination of percent of initiations, initiating with a somatic complaint, and responding with neutral conversation [$F(4,75) = 4.83$, $p = .002$]. The multiple regression equation was $Y = 29.5 - .30 (\text{percent initiated}) + 7.04 (\text{initiate somatic complaints}) - .27 (\text{respond neutral})$. The squared multiple correlation was .20. Of the three predictor variables in the model, only percent initiated was a significant predictor. This indicates that while the two specific behaviors of somatic complaints and neutral conversation may contribute to the depression score, percent of initiations ($b\text{-value} = -.30$, $df = 4,75$, $p = .04$) is the most powerful predictor. The relationship between depression and initiations indicates that as depression increases, initiations decrease.

Primary Analyses

Depressed and nondepressed subjects were compared on the accuracy of their perceptions of their partners' behavior using Edward's (1960) test to compare the significance of the differences between two correlations. The correlations of behavior and Impact Message Inventory subscales are presented in Table 5.

Depressed subjects tended to view their partners as hostile when the partner initiated with neutral conversation. Partners responding with neutral conversation were seen as less dominant, less exhibitionistic, and more trusting. They also tended to view partners initiating with inquiries as abusive. Partners who initiated more somatic complaints and responded with fewer personal problems were viewed as deferent. Depressed subjects also viewed their partner as agreeable when the partner responded with fewer personal problems. Partners responding with inquiries were seen as less nurturant, less affiliative, but more trusting. Additionally, partners were viewed as affiliative when they responded with fewer periods of silence.

Nondepressed subjects' impressions correlated slightly more often with their partner's behavior. Partners who initiated neutral conversation were viewed as dominant,

TABLE 5

Correlation of Behavior with
Partners' Impressions

Partner Impressions	<u>Subject Behavior</u>			
	CMNI	SCI	PPI	IQI
Dominant				
Depressed	0.27	0.23	0.01	-0.03
Nondepressed	0.31*	-0.16	0.09	0.08
Edward's test	0.19	1.70*	0.34	0.47
Competitive				
Depressed	0.25	0.11	-0.04	0.17
Nondepressed	0.19	0.02	-0.08	0.12
Edward's test	0.27	0.39	0.17	0.22
Hostile				
Depressed	0.35*	0.08	-0.11	-0.12
Nondepressed	0.16	0.02	-0.03	0.05
Edward's test	0.88	0.26	0.34	0.74
Detached				
Depressed	-0.02	0.03	0.10	-0.07
Nondepressed	-0.13	-0.05	-0.15	-0.23
Edward's test	0.88	0.34	1.08	0.77
Inhibited				
Depressed	0.07	0.09	0.18	-0.05
Nondepressed	-0.06	0.00	0.13	-0.15
Edward's test	0.56	0.39	0.22	0.44
Submissive				
Depressed	0.11	0.01	0.04	0.02
Nondepressed	0.12	-0.04	-0.02	-0.15
Edward's test	0.05	0.22	0.26	0.74
Succorant				
Depressed	0.01	-0.01	-0.11	-0.21
Nondepressed	0.05	-0.12	0.11	-0.34*
Edward's test	0.17	0.48	0.95	0.57
Abasive				
Depressed	-0.03	-0.10	0.05	0.33*
Nondepressed	0.11	0.01	0.01	-0.35*
Edward's test	0.60	0.47	0.17	3.05**

TABLE 5 (Continued)

Partner Impressions	<u>Subject Behavior</u>			
	CMNI	SCI	PPI	IQI
Deferent				
Depressed	0.03	0.32*	0.01	-0.19
Nondepressed	0.29	-0.21	-0.21	-0.05
Edward's test	1.15	2.35**	0.96	0.61
Agreeable				
Depressed	-0.09	-0.06	0.07	0.13
Nondepressed	0.29	0.06	0.04	0.05
Edward's test	1.68*	0.52	0.13	0.35
Nurturant				
Depressed	0.00	-0.12	0.21	0.07
Nondepressed	0.22	0.01	0.10	0.26
Edward's test	0.97	0.56	0.49	0.84
Affiliative				
Depressed	0.21	-0.04	0.07	0.23
Nondepressed	0.30*	-0.01	0.13	0.14
Edward's test	0.34	0.13	0.26	0.40
Sociable				
Depressed	0.29	0.11	0.13	0.23
Nondepressed	0.49**	0.08	0.16	0.13
Edward's test	1.14	0.13	0.13	0.44
Exhibitionistic				
Depressed	0.24	0.06	0.02	0.26
Nondepressed	0.43**	0.08	0.30	0.18
Edward's test	0.93	0.08	1.25	0.36
Mistrusting				
Depressed	0.41**	0.13	0.17	0.00
Nondepressed	0.10	-0.07	0.04	-0.22
Edward's test	1.45	0.87	0.57	0.95

*p < .05

**p < .01

TABLE 5 (Continued)

Partner Impressions	<u>Subject Behavior</u>					
	CMNR	PCR	PPR	IQR	SR	TCR
Dominant						
Depressed	-0.24	N/A	-0.22	-0.22	0.17	N/A
Nondepressed	-0.36*	-0.07	0.16	0.02	-0.22	0.35*
Edward's test	0.57	N/A	1.66*	1.05	1.71*	N/A
Competitive						
Depressed	-0.15	N/A	0.04	-0.09	0.24	N/A
Nondepressed	-0.19	-0.14	0.14	-0.19	-0.24	-0.17
Edward's test	0.18	N/A	0.44	0.44	2.11*	N/A
Hostile						
Depressed	-0.32*	N/A	0.02	-0.09	0.21	N/A
Nondepressed	-0.17	-0.07	0.11	-0.11	-0.15	0.11
Edward's test	0.69	N/A	0.39	0.09	1.57	N/A
Detached						
Depressed	0.01	N/A	0.04	0.06	-0.02	N/A
Nondepressed	0.27	-0.13	0.10	-0.16	-0.15	-0.13
Edward's test	1.15	N/A	0.26	0.95	0.56	N/A
Inhibited						
Depressed	-0.11	N/A	-0.08	0.10	0.19	N/A
Nondepressed	0.15	0.28	0.18	-0.17	0.01	0.12
Edward's test	1.13	N/A	1.13	1.17	0.78	N/A
Submissive						
Depressed	-0.17	N/A	-0.23	0.04	0.04	N/A
Nondepressed	0.08	-0.19	0.15	-0.26	-0.33*	-0.11
Edward's test	1.09	N/A	1.66*	1.32	1.65*	N/A
Succorant						
Depressed	0.00	N/A	0.07	0.12	0.04	N/A
Nondepressed	0.17	-0.16	0.12	-0.02	-0.30	0.06
Edward's test	0.74	N/A	0.22	0.61	1.51	N/A
Abasive						
Depressed	-0.11	N/A	-0.14	0.03	-0.17	N/A
Nondepressed	0.16	-0.16	-0.09	-0.08	-0.43**	0.08
Edward's test	1.17	N/A	0.22	0.47	1.24	N/A

TABLE 5 (Continued)

Partner Impressions	<u>Subject Behavior</u>					
	CMNR	PCR	PPR	IQR	SR	TCR
Deferent						
Depressed	0.03	N/A	-0.40**	-0.04	-0.09	N/A
Nondepressed	-0.24	0.10	-0.16	0.08	-0.26	-0.15
Edward's test	1.18	N/A	1.13	0.52	0.76	N/A
Agreeable						
Depressed	0.06	N/A	-0.32*	-0.19	-0.19	N/A
Nondepressed	-0.16	-0.24	-0.27	-0.09	-0.51**	0.08
Edward's test	0.95	N/A	0.24	0.44	1.60	N/A
Nurturant						
Depressed	0.02	N/A	-0.23	-0.31*	-0.11	N/A
Nondepressed	-0.19	-0.22	-0.28	-0.14	-0.37*	0.01
Edward's test	0.91	N/A	0.23	0.78	1.20	N/A
Affiliative						
Depressed	-0.22	N/A	-0.26	-0.37*	-0.37*	N/A
Nondepressed	-0.29	-0.03	-0.23	-0.08	-0.21	0.15
Edward's test	0.32	N/A	0.14	1.33	0.75	N/A
Sociable						
Depressed	-0.29	N/A	-0.26	-0.27	-0.12	N/A
Nondepressed	-0.37*	-0.33*	-0.21	-0.26	-0.50**	0.21
Edward's test	0.38	N/A	0.23	0.05	1.84*	N/A
Exhibitionistic						
Depressed	-0.31*	N/A	-0.28	-0.22	0.14	N/A
Nondepressed	-0.47**	-0.13	0.04	-0.01	-0.32*	0.55**
Edward's test	0.81	N/A	1.41	0.92	2.04*	N/A
Mistrusting						
Depressed	-0.32*	N/A	0.01	-0.39**	-0.11	N/A
Nondepressed	0.05	-0.13	0.21	-0.13	-0.24	0.11
Edward's test	1.65*	N/A	0.88	1.21	0.58	N/A

*p < .05

**p < .01

affiliative, sociable, and exhibitionistic. Partners who initiated with inquiries were viewed as less succorant and less abasive. Subjects responding with neutral conversation were seen by their nondepressed partner as less sociable, less exhibitionistic, and less dominant. Responding with silence was related to impressions of being less abasive, less agreeable, less nurturant, less sociable, less exhibitionistic, and less submissive. Partners responding with topic changes were viewed as dominant and exhibitionistic.

Edward's comparisons of the significance of the difference between the correlations allow an indirect assessment of the relative accuracy of depressed and nondepressed subjects. For most of the comparisons, the test of significance of difference failed to reach a sufficient level of significance to reject the null hypothesis that the two groups would not differ in their perceptions. Behavior does not seem greatly predictive of impressions. However, eleven of the one hundred twenty tests revealed significant differences. The significant differences begin to reveal that the depressed are perhaps less accurate in their evaluations of their partner's behavior. For example, they associate somatic complaints and being deferent, inquiries and being abasive, silences and being

competitive. However, nondepressed subjects also appear, at times, to be inaccurate interpreters of behavior. For example, they relate initiating somatic complaints with decreased dominance while they also relate personal problems with increased dominance.

Depressed and nondepressed subjects' behavioral and self-report measures were compiled separately. The mean frequencies for each behavioral category and self-report measure are reported in Table 6. As shown in Table 6, behaviors for both depressed and nondepressed subjects were mostly neutral and inquiries. Negative behaviors were rare. To determine differences between groups, four 2×2 multivariate analyses of variance were computed with two between subjects factors [sex and depression classification (depressed versus nondepressed)] for self-report and behavioral measures. Additionally, three multivariate analyses of variance were computed with the two between subjects factors of depression classification and group placement (male-male, male-female, female-male, female-female). These will be reported separately for behaviors, IMI subscales, Desire for Future Interaction responses, and MAACL subscales.

TABLE 6

Means for Behavioral Data and Self-Report
for Depressed and Nondepressed Subjects

Dependent Measures	$\bar{X}$	<u>Depressed</u>		$\bar{X}$	<u>Nondepressed</u>	
		SD	range		SD	range
IMI, Dominant	8.53	2.44	6.00-15.00	7.85	1.89	6.00-14.00
IMI, Competitive	7.73	1.87	6.00-13.00	7.38	1.56	6.00-14.00
IMI, Hostile	7.18	1.78	6.00-15.00	6.78	1.75	6.00-16.00
IMI, Mistrusting	10.23	2.29	6.00-17.00	8.63	2.02	6.00-13.00
IMI, Detached	7.70	1.74	6.00-12.00	7.40	1.81	6.00-12.00
IMI, Inhibited	9.70	2.45	6.00-16.00	8.55	2.01	6.00-14.00
IMI, Submissive	8.90	2.31	6.00-14.00	8.35	2.02	6.00-13.00
IMI, Succorant	9.20	2.61	6.00-16.00	8.20	2.22	6.00-13.00
IMI, Abasive	11.18	2.78	6.00-16.00	10.70	2.42	6.00-16.00
IMI, Deferent	10.50	2.25	6.00-16.00	9.78	1.98	6.00-13.00
IMI, Agreeable	13.10	2.70	7.00-18.00	13.63	3.13	7.00-21.00
IMI, Nurturant	13.28	3.13	7.00-18.00	13.85	2.85	9.00-21.00
IMI, Affiliative	15.80	3.07	9.00-22.00	15.55	2.64	10.00-22.00
IMI, Sociable	13.83	3.14	8.00-20.00	12.55	2.73	7.00-18.00
IMI, Exhibitionistic	9.23	2.27	6.00-14.00	8.30	1.71	6.00-14.00
Subject's DFI	4.98	1.13	2.20- 6.80	5.11	1.08	2.20- 7.00
Expected Partner's DFI	4.05	0.09	1.80- 5.80	4.73	0.87	2.70- 7.00

TABLE 6 (Continued)

Dependent Measures	$\bar{X}$	<u>Depressed</u>		$\bar{X}$	<u>Nondepressed</u>	
		SD	range		SD	range
CMNI	39.78	15.15	10.17-73.24	44.76	13.29	23.94-76.27
SCI	0.06	0.25	0.00- 1.18	0.28	0.18	0.00- 1.11
PPI	0.22	0.63	0.00- 2.22	0.28	0.72	0.00- 3.45
IQI	6.48	6.14	0.00-25.56	5.68	5.46	0.00-25.68
CMNR	45.29	13.22	15.49-75.68	43.28	14.34	10.17-68.89
PCR	0.03	0.19	0.00- 1.23	0.00	N/A	0.00
PPR	0.20	0.51	0.00- 2.22	0.08	0.29	0.00- 1.15
IQR	4.55	5.57	0.00-23.17	3.59	3.18	0.00-10.23
SR	1.21	3.14	0.00-14.81	0.43	0.94	0.00- 4.94
TCR	0.03	0.18	0.00- 1.11	0.00	N/A	0.00

Behavioral Data. Two separate multivariate analyses of variance were conducted. The first examined the between subjects factors of sex and depression. The second examined group placement and depression status. Using Pillai's Trace Criterion, there were no overall effects of depression classification [$F(11,66) = 1.09, p = .38$], sex [$F(11,66) = 0.90, p = .54$], or group placement [$F(36,189) = 1.02, p = .45$]. Further, there were no significant interactions. These results suggest that there are no differences in the behavior of depressed or non-depressed subjects, males or females, nor in the behavior of subjects interacting with males or females. Planned univariate comparisons indicated there were two differences for depression, sex, or group on the behavioral measures. The univariate F values are shown in Table 7. These suggest that males tend to respond with greater periods of silence. More specifically, depressed males interacting with males responded with the greatest frequency of silence. However, the significance of this single behavior should be interpreted cautiously given the nonsignificant multivariate value.

Impact Message Inventory Subscales. Using Pillai's Trace Criterion, there was no effect of depression [$F(15,58) = 1.47, p = .15$] or sex [$F(15,58) = 0.47, p = .95$]. However, the multivariate effect of group

TABLE 7

Univariate Analyses for Behavioral Data

Behavior	F for Sex	F for Depression	F for Group
CMNI	0.18	2.31	0.07
SCI	0.36	0.36	0.33
PPI	0.52	0.16	1.30
IQI	0.52	0.37	0.33
CMNR	0.37	0.40	0.32
PCR	1.00	1.00	1.00
PPR	1.49	1.56	0.37
TCR	1.00	1.00	1.00
IQR	1.67	0.91	0.45
SR	4.17*	2.62	3.95**

*p < .05

**p < .01

classification approached significance [$F(45,180) = 1.40$, $p = .06$]. The mean scores for the fifteen subscales are provided in Table 8. Table 9 provides the univariate analyses by group classification. Seven of the fifteen scales showed a main effect of the group variable. For example, males interacting with males viewed their partners as significantly less sociable, less affiliative, less agreeable, and more inhibited. Conversely, females interacting with females tended to view their partners as less inhibited, less submissive, and more affiliative. Depressed males and nondepressed females tend to view their partners as more submissive, more abusive, and more nurturant. Thus, depression and sex per se do not appear to affect ratings of one's partner. Rather, the group classification appears to be a critical variable. That is the perceptions appear to vary depending upon the sex of the partner, not the depressive status.

Desire for Future Interaction. Using Pillai's Trace Criterion to test differences in scores on the Desire for Future Interaction and perceived partner's Desire for Future Interaction, a significant main effect occurred for depression classification [$F(2,70) = 7.43$, $p = .001$] and group classification [$F(6,142) = 2.33$, $p = .034$]. However, there was no effect of sex [$F(2,70) = 1.17$, $p = .32$]. The means and univariate analyses are provided

TABLE 8

Mean IMI Subscale Score by Depression, Sex, and Group

Subscales	Male		<u>Depressed</u> Female		Male		<u>Nondepressed</u> Female	
	1 ^a	2	1	2	1	2	1	2
Dominant	9.10	8.00	8.20	8.80	8.40	8.90	7.30	6.80
Competitive	8.50	7.80	7.40	7.20	7.10	7.90	7.90	6.60
Hostile	7.60	7.20	6.90	7.00	6.50	7.50	6.50	6.60
Mistrusting	10.80	10.70	9.50	9.90	9.00	8.80	9.10	7.60
Detached	8.60	7.50	7.40	7.30	7.60	6.80	7.80	7.40
Inhibited	11.60	9.40	9.80	8.00	8.80	8.30	9.20	7.90
Submissive	9.70	10.10	8.60	7.20	7.60	8.50	9.20	8.10
Succorant	10.10	9.50	9.70	7.50	7.60	8.00	8.90	8.30
Abasive	10.50	12.20	11.60	10.40	9.50	11.40	12.30	9.60
Deferent	10.90	10.90	10.20	10.00	9.40	10.50	10.20	9.00
Agreeable	12.20	13.80	13.40	13.00	11.10	15.10	14.30	14.00
Nurturant	12.50	15.20	12.70	12.70	11.40	14.60	15.60	13.80
Affiliative	14.00	17.20	15.40	16.60	14.50	16.50	15.60	15.60
Sociable	13.30	15.20	13.10	13.70	10.40	13.80	13.80	12.20
Exhibitionistic	9.40	9.40	8.60	9.50	7.90	8.80	8.30	8.20

Note: ^aThese numbers can be translated as follows:
 1 = subject interacting with male partner
 2 = subject interacting with female partner

TABLE 9
Group⁵ Means of IMI Subscales

Subscale	Group 1	Group 2	Group 3	Group 4	F
Dominant	8.75	7.65	8.55	7.80	0.09
Competitive	7.80	7.85	7.65	6.90	0.67
Hostile	7.05	6.85	7.20	6.80	0.23
Mistrusting	9.90	9.90	9.15	8.75	0.63
Detached	8.10 ^a	7.65	7.10	7.35 ^b	1.33
Inhibited	10.20 ^a	9.30 ^a	9.05	7.95 ^b	3.25**
Submissive	8.65	9.65 ^a	8.55	7.65 ^b	2.54*
Succorant	8.85 ^a	9.20 ^b	8.85	7.90 ^a	1.23
Abasive	10.00 ^a	12.25 ^b	11.50	10.00 ^a	4.05**
Deferent	10.15 ^a	10.55	10.35	9.50	0.61
Agreeable	11.65 ^a	14.05 ^a	14.25	13.50	3.42**
Nurturant	11.95 ^b	15.40 ^a	13.65	13.25 ^a	5.46**
Affiliative	14.25 ^a	16.40 ^b	15.95	16.10	3.15**
Sociable	11.85 ^a	14.50	13.45	12.95	3.45**
Exhibitionistic	8.65	8.85	8.70	8.85	0.30

Values with different superscripts are significantly different.

*p < .10

**p < .05

⁵

Group numbers can be translated as:

1 = depressed male and nondepressed male

2 = depressed male and nondepressed female

3 = depressed female and nondepressed male

4 = depressed female and nondepressed female

in Table 10. The results indicate that there were significant differences for the individual's estimation of their partner's Desire for Future Interaction. Depressed subjects perceived their partner as less likely to desire future interaction than nondepressed subjects. Additionally, there was a significant group difference in desire for future interaction. The scores suggest that subjects desired future interaction when the dyad contained a nondepressed female, regardless of the sex of the depressed partner. Further, depressed women interacting with nondepressed women showed a trend toward predicting lower partner ratings while their partner predicted higher ones.

A multiple regression analysis was conducted with Desire for Future Interaction as the criterion variable. Due to the large number of predictor variables entered, a stepwise regression procedure was used. Desire for Future Interaction was best predicted by responding with a personal problem and sex of the partner. The multiple regression equation was $Y = 6.09 - 0.68$ (responding with personal problem) $- 0.63$ (sex of partner) and the squared multiple correlation was .13. This two variable model was significant [$F(2,77) = 5.78, p = .005$]. Responding with a personal problem was a significant predictor of Desire for Future Interaction ($b\text{-value} = -.68, df = 2.77, p < .05$).

TABLE 10
Mean Desire for Future Interaction

Dependent Measure	Depressed	Nondepressed	F
Subject's DFI	4.98	5.15	0.46
Estimation of Partner's DFI	4.05	4.73	12.51**

	Male	Female	F
Subject's DFI	4.96	5.17	0.73
Estimation of Partner's DFI	4.32	4.46	0.65

	Group 1	Group 2	Group 3	Group 4	F
Subject's DFI	4.65	5.37	4.89	5.37	2.28*
Estimation of Partner's DFI	4.22	4.45	4.52	4.38	0.36

*p < .01
**p < .001

Sex of the partner was also a significant predictor ($b\text{-value} = -.63$, $df = 2,77$, $p < .01$). The negative $b\text{-value}$ suggests that subjects are more likely to desire future interactions with female partners rather than male partners. No other behaviors were predictive of desire for future interaction.

MAACL Subscales. A $2 \times 2 \times 2$ multivariate analysis of variance was conducted with two between factors [depression (depressed versus nondepressed) and sex] and one within subjects factor [time (pre-interaction and post-interaction)]. The means for each subscale by these factors are presented in Table 11. Using Pillai's Trace Criterion, a significant main effect was found for depression [$F(3,76) = 10.77$, $p = .0001$], time [$F(3,76) = 12.11$, $p = .0001$], and an interaction of the two [$F(3,76) = 5.57$, $p = .0018$]. Nondepressed subjects did not report significant affective changes. Rather, their scores remained consistent. Depressed subjects, however, reported significantly less anxiety, depression, and hostility after the interaction. These relationships are shown in Figures 1-3.

Additionally, a significant main effect of the sex of subject was found [$F(3,76) = 3.72$, $p = .014$]. Figures 4-6 demonstrate that depressed males exhibited greater

TABLE 11
Mean MAACL Scores by Sex, Depression, and Time

MAACL Scale	<u>Depressed</u>		<u>Nondepressed</u>	
	Male	Female	Male	Female
Time 1				
Anxiety	11.60	9.05	6.20	4.55
Depression	17.50	15.65	12.65	9.55
Hostility	8.65	7.65	6.70	4.35
Time 2				
Anxiety	7.50	6.55	5.60	3.20
Depression	14.40	13.65	11.80	8.20
Hostility	6.65	5.90	6.75	4.05

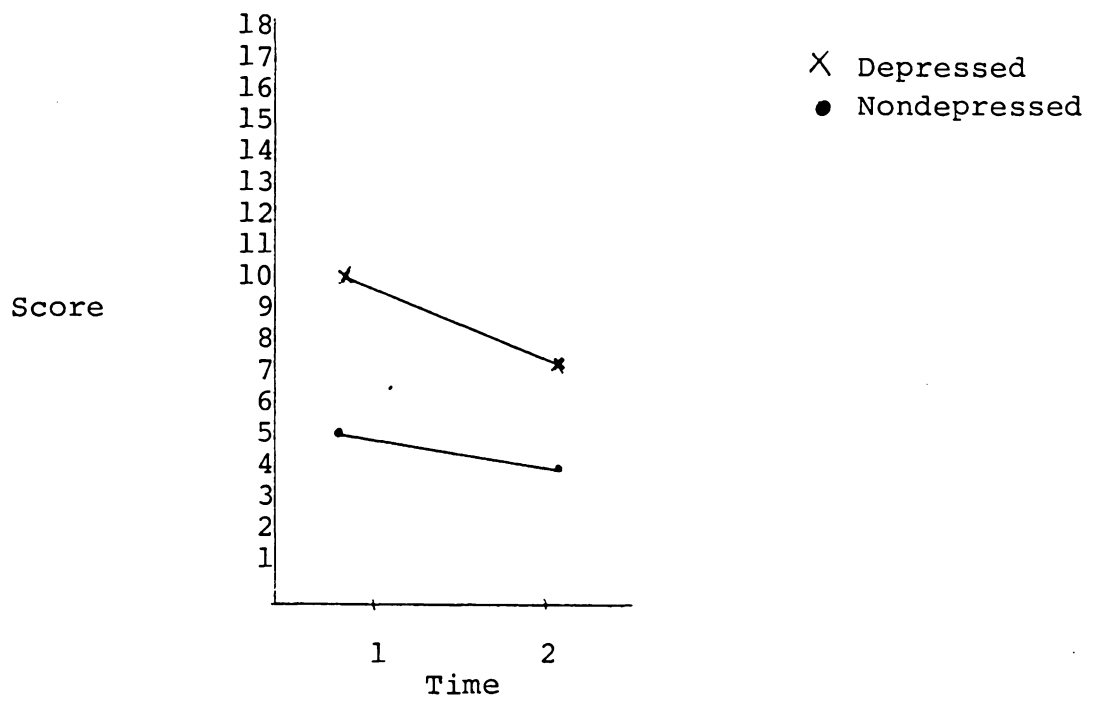


FIGURE 1: Mean MAACL Anxiety by Depression Classification

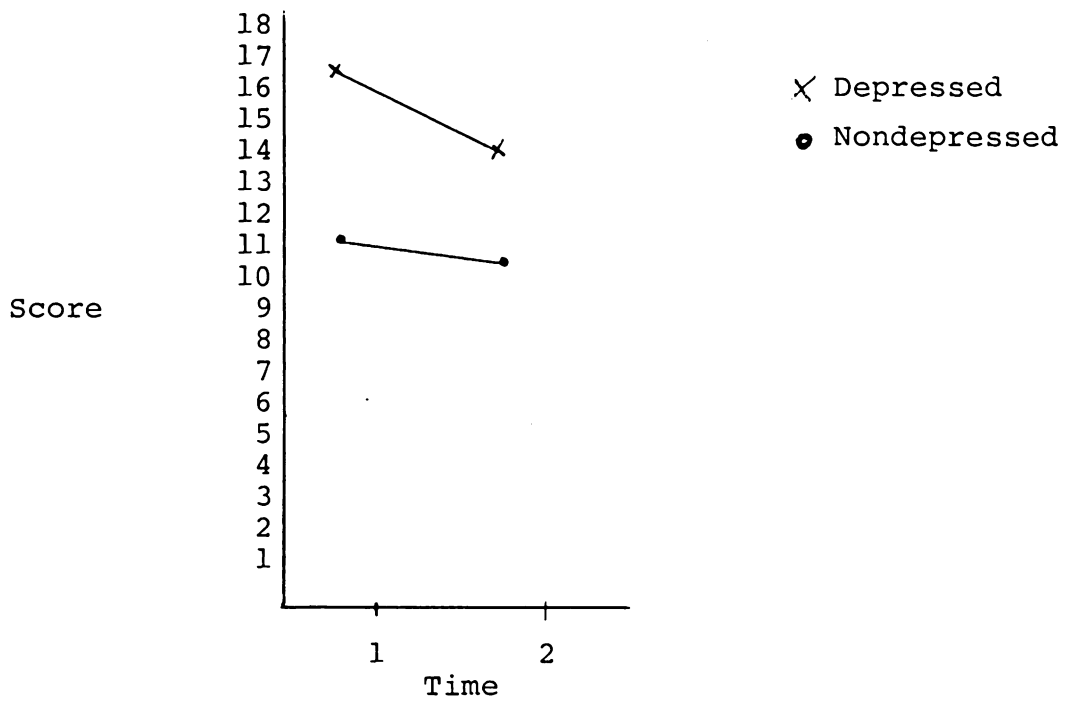


FIGURE 2: Mean MAACL Depression by Depression Classification

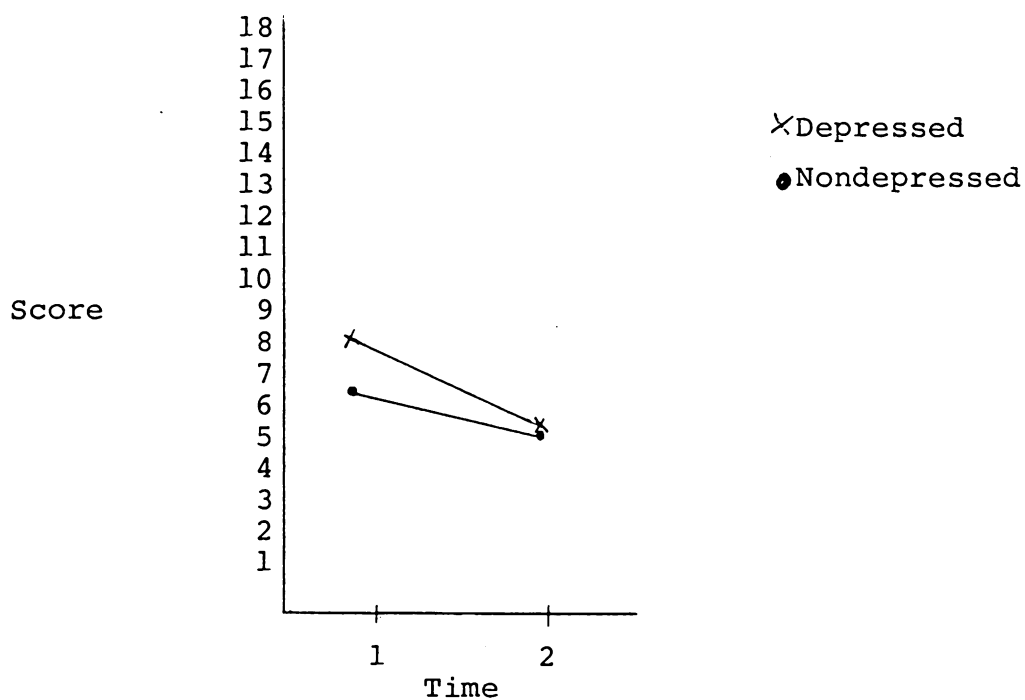


FIGURE 3: Mean MAACL Hostility by Depression Classification

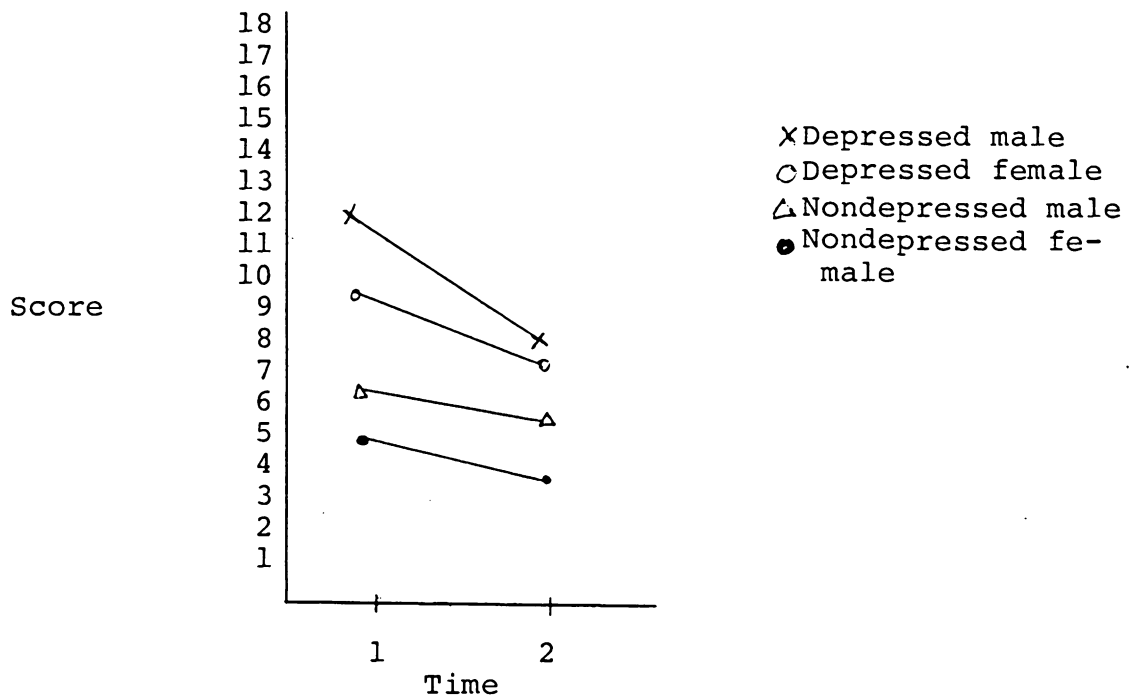


FIGURE 4: Mean MAACL Anxiety by Depression Classification and Sex

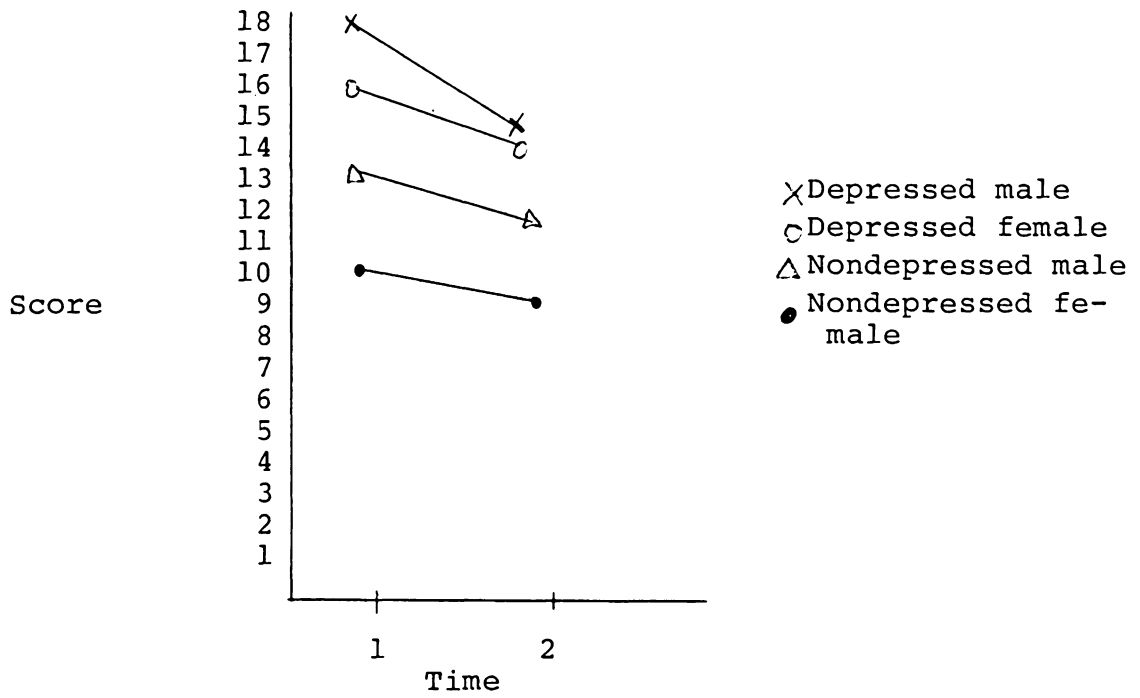


FIGURE 5: Mean MAACL Depression by Depression Classification and Sex

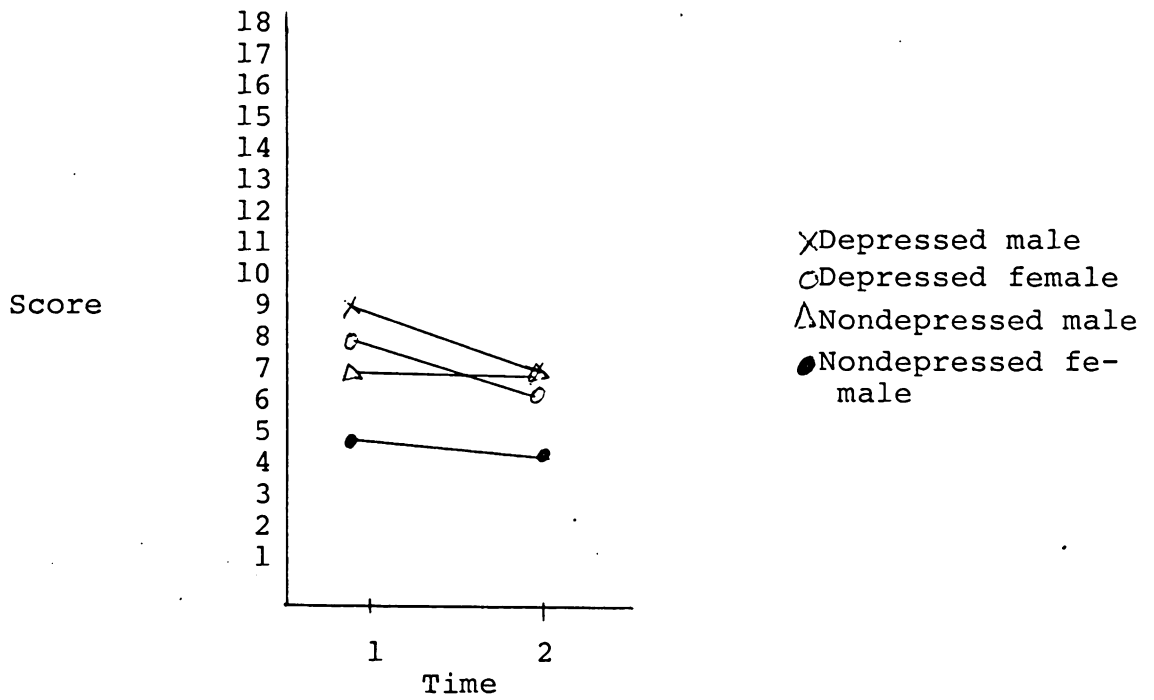


FIGURE 6: Mean MAACL Hostility by Depression Classification and Sex

anxiety, depression, and hostility. No other groups differed significantly.

Self-Reported Depression. Based on previous research that depressed males and females may report different patterns of depression, responses to items on the BDI were compared. The means for each item were analyzed using univariate t-tests. The results are shown in Table 12. Depressed males and females differed significantly on only two items. Males reported getting less satisfaction out of life while females reported feeling punished. Thus, males and females appear to present similar patterns of responses.

Depressed males and females were also compared on reported length, severity, and recurrence of depression. A multivariate analysis of variance with one between subjects factor (sex) was not significant [$F(3,25) = 1.63$, $p = .21$] indicating that both males and females report similar severity, length, and recurrence. Both groups reported depression of approximately one week to one month duration, of mild to moderate severity, which recurred approximately every few months.

TABLE 12

Mean BDI Responses and
t-test for Males and Females

BDI item (key words)	Female	Male	t
1. Sad	1.85	1.60	1.47
2. Discouraged	1.75	1.85	0.63
3. Failure	1.50	1.50	0.00
4. Satisfaction	1.60	2.20	3.15*
5. Guilty	1.50	1.35	0.88
6. Punished	2.05	1.35	2.41*
7. Disappointed	2.00	2.05	0.36
8. Worse	2.05	2.05	0.00
9. Killing	1.65	1.40	1.47
10. Cry	2.35	1.90	1.13
11. Irritated	2.05	1.85	0.80
12. Interest	1.60	1.55	0.23
13. Decisions	1.55	1.85	1.25
14. Look	2.00	1.70	1.03
15. Work	2.10	2.00	0.53
16. Sleep	1.55	1.75	0.87
17. Tired	1.85	1.85	0.00
18. Appetite	1.85	1.75	0.36
19. Weight	1.50	1.35	0.60
20. Worried	1.30	1.40	0.67
21. Sex	1.25	1.35	0.63

*p < .05

DISCUSSION

The purposes of this study were to provide information concerning depressed individuals in a social context and to analyze differences in the behaviors, impressions, and affect of depressed and nondepressed subjects. College students were classified as depressed or nondepressed based on Beck's (1967) suggested criteria. They were assigned to one of the following groups: depressed males interacting with nondepressed males or females and depressed females interacting with nondepressed males or females.

Behaviors during these interactions were primarily neutral conversation and inquiries. Neither depressed nor nondepressed subjects engaged in many negative or positive behaviors. This finding is inconsistent with previous research employing some type of face-to-face interaction. Howes and Hokanson (1979), using trained confederates to enact a depressed, physically ill, or normal role reported behavioral differences for subjects interacting with "depressed" confederates. The subjects responded with directly supportive statements as well as silent periods, directly negative statements, and a lower rate of responding. One possible interpretation is that confederate designs are inappropriate to investigate interactional effects. Confederates may act in a stereotypic fashion not

truly representative of the population they are supposed to emulate. Howes and Hokanson based their confederate behavior on the available depression literature. Importantly, their investigation occurred before investigations examining the behavior of mildly depressed college students. The results of the present investigation suggest that mildly depressed college students in a time-limited interaction may not display the negative behaviors thought to be typical of depressed individuals.

However, Gotlib and Robinson (1982) found behavioral differences in their subjects when they interacted with depressed college students. Unlike Howes and Hokanson (1979), these authors reported fewer directly supportive statements to the depressed students. Additionally, subjects' conversations with the depressed were of less positive and of more negative content. The study also examined the behavior of the depressed individuals. They found only two differences between depressed and nondepressed subjects. Depressed individuals emitted fewer directly supportive statements and more negative content conversation.

An examination of the methodologies of the current investigation and two previous studies begins to address these inconsistencies. A major limitation of the current

study is the lack of a control group. Comparisons between depressed and nondepressed subjects are thus made within rather than between dyads. A theory of reciprocity (Homans, 1974) would predict no differences between partners in a within dyad comparison. According to this theory, interactions are a reciprocal exchange process such that the behavior of partners would be similar. Gotlib and Robinson (1982) employed a control group of nondepressed subjects interacting with other nondepressed individuals. Thus, their depressed-nondepressed comparisons could be made between dyads. Also, although these studies employed a similarly defined behavioral coding system, each analyzed the behaviors differently. Gotlib and Robinson (1982) randomly selected a five minute segment of the fifteen minute interaction and coded each response. Howes and Hokanson (1979) similarly coded each response over their entire seven minute interaction. The current investigation disregarded the first five minutes to allow for subject acclimation and then used a time-sampling procedure to code behaviors. These coding differences may account for some of the observed inconsistencies. Further, although the coding systems were defined similarly, operationalization of the behaviors may have differed. One limitation of the current investigation is that the operational definitions of behaviors may have led to a

tendency to score behaviors in a neutral manner. This may have prevented detection of slightly valenced conversation.

An additional area of inconsistency is the definition of depression used in the investigations. Gotlib and Robinson (1982) defined depression as a score of nine or above on the Beck Depression Inventory. However, the authors defined nondepressed status by a score of six or less. They reported a mean of four and one-half with a standard deviation of two indicating that some of their nondepressed subjects approach the cut-off for depression. Although they compared these subjects' interactions to a control group, interpretation of their results is confused by several issues. The pre-interaction BDI scores of the nondepressed who interacted with depressed subjects approached being significantly higher than the nondepressed control's scores. No explanation for this difference is provided by the authors. Thus, the nondepressed subjects differed before the interaction. Additionally, the inconsistency in the definition of depression brings into question whether the study actually tested the interactional model of depression. Instead, perhaps it demonstrated that individuals who are mildly dysphoric are less socially skilled than normal mood subjects. The current investigation employed a more stringent definition of de-

pression status to insure adequate differences between the depressed and nondepressed subjects. A replication with a control group would appear desirable to further address these inconsistencies.

This study also correlated the BDI with behaviors. Cautious interpretation is warranted given that negative behaviors were quite rare. However, several were significantly correlated with the BDI. The BDI was negatively correlated with total percent of initiations during the interaction and with neutral initiations suggesting that as depression increases, these behaviors decrease. Further, the BDI positively correlated with initiation of somatic complaints, initiations of personal problems, fewer initiations, and responses of psychological complaints, personal problems, and topic changes. Together, these findings may indicate that depressed are indeed less socially skilled in brief interactions (Lewinsohn, 1974). Examination of the data suggests that the subjects with higher BDI scores tended to display the negative behaviors. The multiple regression predicting the BDI further supports this hypothesis. BDI scores were predicted by a combination of three behaviors: fewer initiations, fewer neutral responses, and greater somatic complaints. Although the primary analyses addressed the behavioral differences more directly, the descriptive results suggest

that there may be several differences in the depressed and nondepressed subjects' behavior during the interaction. Consistent with previous research, depressed subjects tended to initiate less often, exhibit increased somatic complaints and psychological complaints, and respond with less neutral conversation.

The first major hypothesis, that depressed individuals would exhibit more aversive behaviors in the interaction and subsequently would be viewed more negatively by their partner, was not supported. The social interactional model predicts that both depressed and nondepressed individuals are cognizant of their environment and accurate interpreters of behavior. Thus, they would be able to detect the subtle changes (e.g. mixed messages) in the behavior of others. However, the results of this study indicate that behavior during the interaction did not correlate well with subjects' impressions of their partners' behavior. One potential explanation for this finding is that the interactions were primarily composed of neutral conversation. Subjects were asked to rate their partners on a variety of positively and negatively valenced characteristics. The neutrality of the interactions may have made accurate discriminations along these dimensions quite difficult. Several of Coyne's (1976b) assumptions are questioned by these findings. First, it is assumed that depressives are

aversive due to their behavior in interactions. Depressives did not display a significant amount of aversive behavior in this study. Also, nondepressives may not be interpreting this behavior accurately. Finally, individuals may not be as cognizant of subtle changes in their environment as the model assumes. Exploring interactions and individuals' interpretations of such would provide valuable information for both theoretical and clinical applications. Previous research has tended to examine only one of these dimensions. Perhaps, as Beck's (1967) cognitive model would suggest, an individual's perceptions of an interaction are more important than the interaction itself. Future research may include a measure of the individuals' expectations for the interaction to address this alternative.

Previous research examining perceptions of interactions has reported negative impressions of depressed subjects by nondepressed partners (Boswell & Murray, 1981; Coyne, 1976a; Howes & Hokanson, 1979). However, when studies have employed face-to-face interactions with actual depressed subjects (Gotlib & Robinson, 1982), negative impressions are not reported. Further, a recent replication of Coyne's (1976a) study did not find negative impressions of depressed subjects (King & Heller, 1984).

Previous research has also reported affective changes

of increased anxiety, depression, and hostility following interactions with depressed individuals (Coyne, 1976a; Hammen & Peters, 1978). These changes were not found for nondepressed subjects by the current investigation. This may be a function of the depressed population used in the studies. Confederates and psychiatric patients may engender negative affect in others whereas mildly depressed college students may not. However, King and Heller (1984), using telephone conversations with depressed psychiatric patients, did not find changes in their attempts to replicate Coyne's (1976a) initial investigation. It would appear that Coyne's (1976b) model and its assumptions may not be sufficiently robust to address different populations and methodologies.

The present investigation did find affective changes in depressed subjects. Following the interaction, they reported significantly less anxiety, depression, and hostility. This finding may be accounted for by regression toward the mean. However, several additional hypotheses can be generated to account for this finding. Adopting a behavioral perspective such as Lewinsohn's (1974), one could describe the interaction as reinforcing for the depressed subjects. Yet, the nondepressed subjects' affect remained at its pre-interactional level. Closer inspection of their scores indicates nonsignificant decreases as well

as a restricted range of scores. That is, their scores were quite low at the first measurement.

Another possibility for changes in the affect of the depressed is that depressed subjects may have negative expectations based upon some past experience (Beck, 1967). Once in the interaction these expectations were disconfirmed, or at least not supported, by the feedback the depressed subjects received. This may have resulted in positive affective changes. This prediction differs from Beck's cognitive model in that he does not directly incorporate the feedback of others. Instead, his theory tends to rely upon the distortions of the depressed. However, perhaps feedback is sufficient to correct some of those distortions. An alternate hypothesis for the changes in the affect of the depressed subjects concerns Coyne's (1976b) model. Coyne (1976b) assumes depressed individuals seek emotional support. Receiving the support is predicted to result in improved mood. Yet, a complete chain is interwoven with this straightforward notion. Coyne (1976b) assumes the efforts to garner support actually result in rejection due to the aversive nature of interactions with a depressed individual. The negative interactions necessary for Coyne's model were not observed. Interactions were not aversive to either depressed or nondepressed sub-

jects. Although the improved mood of depressed subjects is consistent with an underlying assumption that receiving support results in improved mood, it is inconsistent with the spirit of Coyne's (1976b) model. Based on the results of this investigation, Coyne's (1976b) model may obscure the most important issue. If an interaction is fairly pleasant or if negative expectations about an interaction are not confirmed, depressed individuals feel better. Replicating this finding with more severely depressed populations would lend support to this reinterpretation of the social interactional model from a behavioral or cognitive perspective.

The second major hypothesis, that depressed males and females could be distinguished by their behavior and their effect on others, also was not supported. Males and females differed on only one behavior, periods of silence. Differences did emerge, however, in terms of reported affect. Depressed males reported more anxiety, depression, and hostility. This finding is contrary to early predictions of the artifact hypothesis (Weissman & Klerman, 1977). This is especially interesting given that the BDI scores for males and females were matched. Further, they did not differ on responses to the BDI. Unlike previous research (Hammen & Padesky, 1977), they presented similar patterns. Hammen and Padesky also matched for

depression level with a mean of 19.9 for males and 19.0 for females. These scores are somewhat higher than those in the current study. Perhaps, differences between male and female self-report of depression emerge at higher levels of depression while they appear similar at lower levels. Additional research addressing this issue would further clarify male and female differences in depression.

The males and females of the current investigation also did not differ on the reported severity, length, or recurrence of their depression. Their impact on nondepressed partners was also similar. Taken together, the results of this study suggest that, at mild levels of depression, males and females are in fact quite similar. They differ only in self-reported affect. Many of the inconsistencies with previous research (Hammen & Peters, 1977, 1978) may be accounted for by the use of mildly depressed males in this study. Although the males are experiencing depression, their behavior (as well as that of depressed females) cannot be distinguished from nondepressed subject's behavior.

An additional question concerns why depressed males reported greater negative affect. Inspection of the results indicates that nondepressed males also reported more anxiety, depression, and hostility than nondepressed

females. One may hypothesize that the experimental procedure contributed to the findings. Perhaps, interactions with strangers induce greater affect in males. Alternatively, these findings may represent an anomaly in the sample. Additional research is warranted to address these issues.

The final hypothesis predicted that depressed individuals of both sexes would disclose more to nondepressed females than to nondepressed males. Although this specific hypothesis was not supported, group differences did emerge. One behavioral difference was noted. Depressed males with nondepressed male partners responded with greatest frequency of silences. This may be a result of the increased negative affect that the depressed males reported. However, no significant overall behavioral differences were found requiring cautious interpretation of this one difference. More significant group differences were found with the Impact Message Inventory and Desire for Future Interaction. Males interacting with males tended to view their partners the most negatively. Females interacting with females tended to view their partners most positively. Brief social interactions of the type used in this study may be more common among women than men. Thus, women may have felt more comfortable and relaxed. Interestingly, depressed males and depressed females interacting

with nondepressed females tended to view their partners similarly, perhaps indicating that nondepressed females are more accepting than nondepressed males. However, sex, and not depression status, appears to account for the differences in impressions.

Subjects were more likely to desire future interactions with females. In fact, sex of the partner was the best predictor of desire for future interaction. Importantly, both nondepressed and depressed males seem to impact more negatively than females. Thus, previous findings of rejection of depressed males (Hammen & Peters, 1977) may have been inappropriately linked to depression status as opposed to sex of the subject. The addition of a control group composed of nondepressed subjects interacting with other nondepressed subjects would address this issue. Alternatively, the rejection may be related to stereotypically portrayed behavior of depressed males (Hammen & Peters, 1978). This argues for the continued use of "real" depressed subjects rather than confederates in the investigation of the social interactional model.

In summary, the current investigation examined the behavior of mildly depressed males and females in a social interaction. Several limitations of the study were noted including the potential neutrality of the

coding system, examination of behavior within dyads, and the use of mildly depressed college students. Additionally, given the amount of data collected, the results of this study were analyzed with a large number of statistical calculations. Thus, many of the significant findings would have been expected by chance alone. To address this, recommendations for future research focused upon refining the coding system to eliminate the potential neutrality, extending the design to clinically depressed populations, and adding a control group of nondepressed subjects interacting with other nondepressed subjects. It was also recommended that confederate designs no longer be employed. With these limitations and suggested improvements in mind, several findings of the current investigation are noteworthy. First, Coyne's (1976b) model was not supported. Depressed subjects were not behaviorally distinguishable from nondepressed subjects. Additionally, they did not impact negatively nor were they rejected. Males and females were also quite similar in terms of behavior and their impact upon others. Differences emerged only when group placement was examined. It appeared that sex, and not depression status, accounted for these differences.

Taken together, these findings suggest that the social

interactional model may be unnecessarily complex. A more parsimonious explanation may be provided by a modified behavioral or cognitive perspective.

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APPENDIX A
Demographic Information

PERSONAL INFORMATION QUESTIONNAIRE

1. Age: _____
2. Sex: _____
3. Race: _____
4. Marital status: _____
5. Year in school: _____
6. Highest school grade completed by your mother: _____
7. What is (was) mother's occupation? _____
8. Highest school grade completed by your father: _____
9. What is (was) father's occupation? _____
10. What is your family's yearly income? Approximately \$ _____
11. Are both your parents alive? _____. If not, how old were you when they died? Mother _____, Father _____.
12. Have your natural parents been divorced or separated? _____
13. If so, how long have they been separated? _____
14. How old were you when they separated? _____
15. Was there a step or surrogate parent in your home? _____
16. If so, how old were you when they entered your home? _____
17. Is this step or surrogate parent still in your home? _____
18. If not, how old were you when they left? _____
19. Did you have a substitute parent outside your home in whom you confided? _____. If so, please specify the nature of this relationship and the sex of the substitute parent. _____
20. Were there brothers and/or sisters living at home with you? Brothers? _____. Ages _____. Sisters? _____. Ages _____.
21. Have you ever had contact with mental health professionals? _____. If so, what was the nature of the contact? _____
22. Have there been recent stressors in your life? _____. If so, please explain the nature of the stressors _____

APPENDIX B
Beck Depression Inventory

BECK INVENTORY

Name: _____ Date: _____

On this questionnaire are groups of statements. Please read each group of statements carefully. Then pick out the one statement in each group which best describes the way you have been feeling the past week, including today! Circle the number beside the statement you picked. 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 your choice.

1. 0 I do not feel sad.
1 I feel sad.
2 I am sad all the time and I can't snap out of it.
3 I am so sad or unhappy that I can't stand it.
2. 0 I am not particularly discouraged about the future.
1 I feel discouraged about the future.
2 I feel I have nothing to look forward to.
3 I feel that the future is hopeless and that things cannot improve.
3. 0 I do not feel like a failure.
1 I feel I have failed more than the average person.
2 As I look back on my life, all I can see is a lot of failures.
3 I feel I am a complete failure as a person.
4. 0 I get as much satisfaction out of things as I used to.
1 I don't enjoy things the way I used to.
2 I don't get real satisfaction out of anything anymore.
3 I am dissatisfied or bored with everything.
5. 0 I don't feel particularly guilty.
1 I feel guilty a good part of the time.
2 I feel quite guilty most of the time.
3 I feel guilty all of the time.
6. 0 I don't feel I am being punished.
1 I feel I may be punished.
2 I expect to be punished.
3 I feel I am being punished.
7. 0 I don't feel disappointed in myself.
1 I am disappointed in myself.
2 I am disgusted with myself.
3 I hate myself.
8. 0 I don't feel I am any worse than anybody else.
1 I am critical of myself for my weaknesses or mistakes
2 I blame myself all the time for my faults.
3 I blame myself for everything bad that happens.
9. 0 I don't have any thoughts of killing myself.
1 I have thoughts of killing myself, but I would not carry them out.
2 I would like to kill myself.
3 I would kill myself if I had the chance.

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10. 0 I don't cry any more than usual.
1 I cry more now than I used to.
2 I cry all the time now.
3 I used to be able to cry, but now I can't cry even though I want to.
11. 0 I am no more irritated now than I ever am.
1 I get annoyed or irritated more easily than I used to.
2 I feel irritated all the time now.
3 I don't get irritated at all by the things that used to irritate me.
12. 0 I have not lost interest in other people.
1 I am less interested in other people than I used to be.
2 I have lost most of my interest in other people.
3 I have lost all of my interest in other people.
13. 0 I make decisions about as well as I ever could.
1 I put off making decisions more than I used to.
2 I have greater difficulty in making decisions than before.
3 I can't make decisions at all anymore.
14. 0 I don't feel I look any worse than I used to.
1 I am worried that I am looking old or unattractive.
2 I feel that there are permanent changes in my appearance that make me look unattractive.
3 I believe that I look ugly.
15. 0 I can work about as well as before.
1 It takes an extra effort to get started at doing something.
2 I have to push myself very hard to do anything.
3 I can't do any work at all.
16. 0 I can sleep as well as usual.
1 I don't sleep as well as I used to.
2 I wake up 1-2 hours earlier than usual and find it hard to get back to sleep.
3 I wake up several hours earlier than I used to and cannot get back to sleep.
17. 0 I don't get more tired than usual.
1 I get tired more easily than I used to.
2 I get tired from doing almost anything.
3 I am too tired to do anything.
18. 0 My appetite is no worse than usual.
1 My appetite is not as good as it used to be.
2 My appetite is much worse now.
3 I have no appetite at all anymore.

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19. 0 I haven't lost much weight, if any, lately.
1 I have lost more than 5 pounds.
2 I have lost more than 10 pounds.
3 I have lost more than 15 pounds.
I am purposely trying to lose weight by eating less.
Yes _____ No _____
20. 0 I am no more worried about my health than usual.
1 I am worried about physical problems such as aches and pains; or upset stomach; or constipation.
2 I am very worried about physical problems and it's hard to think of much else.
3 I am so worried about my physical problems that I cannot think about anything else.
21. 0 I have not noticed any recent change in my interest in sex.
1 I am less interested in sex than I used to be.
2 I am much less interested in sex now.
3 I have lost interest in sex completely.
-
22. How long have you been feeling sad, blue, or depressed?
0 Not applicable--I haven't been feeling sad.
1 one day - one week.
2 one week - one month.
3 longer than one month.
23. How severe do you rate these feelings?
0 Not severe at all.
1 Mildly severe.
2 Moderately severe.
3 Extremely severe.
24. Is this a recurrent problem? Yes _____ No _____
25. If yes, how often does it occur?
0 Every 6 months.
1 Every few months.
2 Every few weeks.
3 Daily.

APPENDIX C

Bem Sex Role Inventory

SELF-CONCEPT QUESTIONNAIRE

Instructions: Please rate the following characteristics, as they describe yourself,
using the scale below--

	<u>1</u>	2	3	4	5	6	<u>7</u>			
	(NEVER OR ALMOST NEVER TRUE)						(ALWAYS OR ALMOST ALWAYS TRUE)			
(1) Self-reliant				1	2	3	4	5	6	7
(2) Yielding				1	2	3	4	5	6	7
(3) Helpful				1	2	3	4	5	6	7
(4) Defends own beliefs				1	2	3	4	5	6	7
(5) Cheerful				1	2	3	4	5	6	7
(6) Moody				1	2	3	4	5	6	7
(7) Independent				1	2	3	4	5	6	7
(8) Shy				1	2	3	4	5	6	7
(9) Conscientious				1	2	3	4	5	6	7
(10) Athletic				1	2	3	4	5	6	7
(11) Affectionate				1	2	3	4	5	6	7
(12) Theatrical				1	2	3	4	5	6	7
(13) Assertive				1	2	3	4	5	6	7
(14) Flatterable				1	2	3	4	5	6	7
(15) Happy				1	2	3	4	5	6	7
(16) Strong Personality				1	2	3	4	5	6	7
(17) Loyal				1	2	3	4	5	6	7
(18) Unpredictable				1	2	3	4	5	6	7
(19) Forceful				1	2	3	4	5	6	7
(20) Feminine				1	2	3	4	5	6	7
(21) Reliable				1	2	3	4	5	6	7
(22) Analytical				1	2	3	4	5	6	7
(23) Sympathetic				1	2	3	4	5	6	7
(24) Jealous				1	2	3	4	5	6	7
(25) Has leadership abilities				1	2	3	4	5	6	7
(26) Sensitive to the needs of others				1	2	3	4	5	6	7
(27) Truthful				1	2	3	4	5	6	7
(28) Willing to take risks				1	2	3	4	5	6	7
(29) Understanding				1	2	3	4	5	6	7
(30) Secretive				1	2	3	4	5	6	7

(4)

(31) Makes decisions easily	1	2	3	4	5	6	7
(32) Compassionate	1	2	3	4	5	6	7
(33) Sincere	1	2	3	4	5	6	7
(34) Self-sufficient	1	2	3	4	5	6	7
(35) Eager to soothe hurt feelings	1	2	3	4	5	6	7
(36) Conceited	1	2	3	4	5	6	7
(37) Dominant	1	2	3	4	5	6	7
(38) Soft spoken	1	2	3	4	5	6	7
(39) Likable	1	2	3	4	5	6	7
(40) Masculine	1	2	3	4	5	6	7
(41) Warm	1	2	3	4	5	6	7
(42) Solemn	1	2	3	4	5	6	7
(43) Willing to take a stand	1	2	3	4	5	6	7
(44) Tender	1	2	3	4	5	6	7
(45) Friendly	1	2	3	4	5	6	7
(46) Aggressive	1	2	3	4	5	6	7
(47) Gullible	1	2	3	4	5	6	7
(48) Inefficient	1	2	3	4	5	6	7
(49) Acts as a leader	1	2	3	4	5	6	7
(50) Childlike	1	2	3	4	5	6	7
(51) Adaptable	1	2	3	4	5	6	7
(52) Individualistic	1	2	3	4	5	6	7
(53) Does not use harsh language	1	2	3	4	5	6	7
(54) Unsystematic	1	2	3	4	5	6	7
(55) Competitive	1	2	3	4	5	6	7
(56) Loves children	1	2	3	4	5	6	7
(57) Tactful	1	2	3	4	5	6	7
(58) Ambitious	1	2	3	4	5	6	7
(59) Gentle	1	2	3	4	5	6	7
(60) Conventional	1	2	3	4	5	6	7

APPENDIX D

State-Trait Anxiety Inventory

SELF-EVALUATION QUESTIONNAIRE

Developed by C.D. Spielberger, R.L. Gorsuch & R. Lushene

STAI FORM X-1

NAME _____ DATE _____

Directions: A number of statements which people have used to describe themselves are given below. Read each statement and then circle the appropriate number to the right of the statement to indicate how you have been feeling the last week including today. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe your present feelings best.

		Not at all	Somewhat	Moderately so	Very much so
1.	I feel calm	1	2	3	4
2.	I feel secure	1	2	3	4
3.	I am tense.	1	2	3	4
4.	I am regretful.	1	2	3	4
5.	I feel at ease.	1	2	3	4
6.	I feel upset.	1	2	3	4
7.	I am presently worrying over possible misfortunes . .	1	2	3	4
8.	I feel rested	1	2	3	4
9.	I feel anxious.	1	2	3	4
10.	I feel comfortable.	1	2	3	4
11.	I feel self-confident	1	2	3	4
12.	I feel nervous.	1	2	3	4
13.	I am jittery.	1	2	3	4
14.	I feel "high strung".	1	2	3	4
15.	I am relaxed.	1	2	3	4
16.	I feel content.	1	2	3	4
17.	I am worried.	1	2	3	4
18.	I feel over-excited and "rattled"	1	2	3	4
19.	I feel joyful	1	2	3	4
20.	I feel pleasant	1	2	3	4

APPENDIX E

Multiple Affect Adjective Checklist

MAACL INSTRUCTIONS

On the next page, you will find words which describe different kinds of moods and feelings. Mark an X in the boxes beside the words which describe how you are feeling right now. Some of the words may sound alike, but we want you to X all the words that describe your feelings. Please work rapidly.

- | | | |
|--|--|--|
| 1 ☐ active | 45 ☐ fit | 89 ☐ peaceful |
| 2 ☐ adventurous | 46 ☐ forlorn | 90 ☐ pleased |
| 3 ☐ affectionate | 47 ☐ frank | 91 ☐ pleasant |
| 4 ☐ afraid | 48 ☐ free | 92 ☐ polite |
| 5 ☐ agitated | 49 ☐ friendly | 93 ☐ powerful |
| 6 ☐ agreeable | 50 ☐ frightened | 94 ☐ quiet |
| 7 ☐ aggressive | 51 ☐ furious | 95 ☐ reckless |
| 8 ☐ alive | 52 ☐ gay | 96 ☐ rejected |
| 9 ☐ alone | 53 ☐ gentle | 97 ☐ rough |
| 10 ☐ amiable | 54 ☐ glad | 98 ☐ sad |
| 11 ☐ amused | 55 ☐ gloomy | 99 ☐ safe |
| 12 ☐ angry | 56 ☐ good | 100 ☐ satisfied |
| 13 ☐ annoyed | 57 ☐ good-natured | 101 ☐ secure |
| 14 ☐ awful | 58 ☐ grim | 102 ☐ shaky |
| 15 ☐ bashful | 59 ☐ happy | 103 ☐ shy |
| 16 ☐ bitter | 60 ☐ healthy | 104 ☐ soothed |
| 17 ☐ blue | 61 ☐ hopeless | 105 ☐ steady |
| 18 ☐ bored | 62 ☐ hostile | 106 ☐ stubborn |
| 19 ☐ calm | 63 ☐ impatient | 107 ☐ stormy |
| 20 ☐ cautious | 64 ☐ incensed | 108 ☐ strong |
| 21 ☐ cheerful | 65 ☐ indignant | 109 ☐ suffering |
| 22 ☐ clean | 66 ☐ inspired | 110 ☐ sullen |
| 23 ☐ complaining | 67 ☐ interested | 111 ☐ sunk |
| 24 ☐ contented | 68 ☐ irritated | 112 ☐ sympathetic |
| 25 ☐ contrary | 69 ☐ jealous | 113 ☐ tame |
| 26 ☐ cool | 70 ☐ joyful | 114 ☐ tender |
| 27 ☐ cooperative | 71 ☐ kindly | 115 ☐ tense |
| 28 ☐ critical | 72 ☐ lonely | 116 ☐ terrible |
| 29 ☐ cross | 73 ☐ lost | 117 ☐ terrified |
| 30 ☐ cruel | 74 ☐ loving | 118 ☐ thoughtful |
| 31 ☐ daring | 75 ☐ low | 119 ☐ timid |
| 32 ☐ desperate | 76 ☐ lucky | 120 ☐ tormented |
| 33 ☐ destroyed | 77 ☐ mad | 121 ☐ understanding |
| 34 ☐ devoted | 78 ☐ mean | 122 ☐ unhappy |
| 35 ☐ disagreeable | 79 ☐ meek | 123 ☐ unsociable |
| 36 ☐ discontented | 80 ☐ merry | 124 ☐ upset |
| 37 ☐ discouraged | 81 ☐ mild | 125 ☐ vexed |
| 38 ☐ disgusted | 82 ☐ miserable | 126 ☐ warm |
| 39 ☐ displeased | 83 ☐ nervous | 127 ☐ whole |
| 40 ☐ energetic | 84 ☐ obliging | 128 ☐ wild |
| 41 ☐ enraged | 85 ☐ offended | 129 ☐ willful |
| 42 ☐ enthusiastic | 86 ☐ outraged | 130 ☐ wilted |
| 43 ☐ fearful | 87 ☐ panicky | 131 ☐ worrying |
| 44 ☐ fine | 88 ☐ patient | 132 ☐ young |

APPENDIX F
Impact Message Inventory

IMI

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 reaction to the person with whom you just interacted. Respond to each item in terms of how precisely it describes the feelings this person arouses in you, the behaviors you want to direct toward this person, and/or the descriptions of this person that come to mind when you're with him or her. Indicate how each item describes your actual reaction by using the following scale: 1 = Not at all; 2 = Somewhat; 3 = Moderately so; and 4 = Very much so.

In filling out the following pages, first imagine you are in this person's presence, in the process of interacting with them. Focus on the immediate reactions you would be experiencing. Then read each of the following items and fill in the number to the left of the statement. The number should be the one which best describes how you would be feeling and/or want to behave if you were actually, at this moment, in the person's presence.

At the top of each page, in bold print, 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 imagining the presence of the person.

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 would be experiencing if you were interacting right now with this person.

Please be sure to fill in the number which best answers how accurately that item describes what you would be experiencing. For example, if an item is Somewhat descriptive of your reaction, fill in the number 2 for somewhat descriptive. Please answer all items. Thank you in advance for your cooperation.

1--Not at all
2--Somewhat

3-- Moderately so
4--Very much so

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

- | | |
|--|--|
| 1. ☐ bossed around. | 19. ☐ loved. |
| 2. ☐ distant from him/her. | 20. ☐ taken charge of. |
| 3. ☐ superior to him/her. | 21. ☐ defensive. |
| 4. ☐ important. | 22. ☐ curious as to why he/she avoids being alone. |
| 5. ☐ entertained. | 23. ☐ dominant. |
| 6. ☐ impersonal. | 24. ☐ welcome with him/her. |
| 7. ☐ like an intruder. | 25. ☐ as important to him/her as others in the group. |
| 8. ☐ in charge. | 26. ☐ like an impersonal audience. |
| 9. ☐ appreciated by him/her. | 27. ☐ uneasy. |
| 10. ☐ part of the group when he's/she's around. | 28. ☐ as though he/she should do it themselves. |
| 11. ☐ cold. | 29. ☐ admired. |
| 12. ☐ forced to shoulder all the responsibility. | 30. ☐ like I'm just one of many friends. |
| 13. ☐ needed. | |
| 14. ☐ complimented. | |
| 15. ☐ as if he's/she's the class clown. | |
| 16. ☐ annoyed. | |
| 17. ☐ embarrasses for him/her. | |
| 18. ☐ frustrated because he/she won't defend their position | |

1--Not at all
2--Somewhat

3--Moderately so
4--Very much so

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

- | | |
|--|---|
| 1. ☐ I want to tell him/her to give someone else a chance to make a decision. | 16. ☐ I want to get away from him/her. |
| 2. ☐ I should be cautious about what I say or do around him/her. | 17. ☐ I should do something to put him/her at ease. |
| 3. ☐ I should be very gentle with him/her. | 18. ☐ I want to point out his/her good qualities to him. |
| 4. ☐ I want him/her to disagree with me sometimes. | 19. ☐ I shouldn't hesitate to call on him/her. |
| 5. ☐ I could lean on him/her for support. | 20. ☐ I shouldn't take him/her seriously. |
| 6. ☐ I want to put him/her down. | 21. ☐ I should tell him/her they are often quite inconsiderate. |
| 7. ☐ I'm going to intrude. | 22. ☐ I want to show him/her what he/she does is self-defeating. |
| 8. ☐ I should tell him/her to stand up for themselves. | 23. ☐ I should tell him/her not to be so nervous around me. |
| 9. ☐ I can ask him/her to carry his/her share of the load. | 24. ☐ I could ask him/her to do anything. |
| 10. ☐ I could relax and he'd/she'd take charge. | 25. ☐ I want to ask him/her why he/she constantly needs to be with other people. |
| 11. ☐ I want to stay away from him/her. | 26. ☐ I want to protect myself. |
| 12. ☐ I should avoid putting him/her on the spot. | 27. ☐ I should leave him/her alone. |
| 13. ☐ I could tell him/her anything and he/she would agree. | 28. ☐ I should gently help him/her begin to assume responsibility for his/her own decisions. |
| 14. ☐ I can join in the activities. | 29. ☐ I want to hear what he/she doesn't like about me. |
| 15. ☐ I want to tell him/her he's/she's obnoxious. | 30. ☐ I should like him/her. |

1--Not at all
2--Somewhat

3--Moderately so
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. | 16. ☐ He's/she's carrying a grudge. |
| 2. ☐ He/she doesn't want to get involved with me. | 17. ☐ He's/she's nervous around me. |
| 3. ☐ He/she is most comfortable withdrawing into the background when an issue | 18. ☐ Whatever I did would be okay with him/her. |
| 4. ☐ He/she wants to pick my brain. | 19. ☐ He/she trusts me. |
| 5. ☐ He/she carries his/her share of the load. | 20. ☐ He/she thinks other people find him/her interesting, amusing, fascinating and witty. |
| 6. ☐ He/she wants me to put him/her on a pedestal. | 21. ☐ He/she weighs situations in terms of what he/she can get out of them. |
| 7. ☐ He'd/she'd rather be alone. | 22. ☐ He'd/she'd rather be left alone. |
| 8. ☐ He/she thinks he/she can't do anything for himself/herself. | 23. ☐ He/she sees me as superior. |
| 9. ☐ His/her time is mine if I need it. | 24. ☐ He's/she's genuinely interested in me. |
| 10. ☐ He/she wants everyone to like him/her. | 25. ☐ He/she wants to be with others. |
| 11. ☐ He/she thinks it's everyone for himself/herself. | 26. ☐ He/she thinks he's/she's always in control of things. |
| 12. ☐ He/she thinks he/she will be ridiculed if he/she asserts himself/herself with others. | 27. ☐ As far as he's/she's concerned, I could just as easily be someone else. |
| 13. ☐ He/she would accept whatever I said. | 28. ☐ He/she thinks he/she is inadequate. |
| 14. ☐ He/she wants to be helpful. | 29. ☐ He/she thinks I have most of the answers. |
| 15. ☐ He/she wants to be the charming one. | 30. ☐ He/she enjoys being with people. |

APPENDIX G

Desire For Future Interaction Questionnaires

IMPRESSIONS 1

This questionnaire asks you some questions about the individual with whom you just interacted. Please read each statement carefully. Remember that all your responses are completely confidential. This should help you feel free to respond in an open and honest manner.

Each statement is based on the following scale:

1	2	3	4	5	6	7
not						very
at						much
all						so

- | | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1. I would like to have this person as a close friend. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 2. This person would be desirable as a co-worker on a class project. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 3. I would enjoy this person as a companion on a 3 hour bus ride. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 4. I would like this person as someone who marries into my family. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5. I'd like this person as a classmate. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 6. I'd be willing to participate in a third phase of this study with this person. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

IMPRESSION 2

This questionnaire asks your opinion of what the individual with whom you just interacted thinks of you. Please read each statement carefully. Remember, this is confidential, so please answer honestly. Remember, this is how you imagine the other person thinks about you.

Each statement is based on the following scale:

1	2	3	4	5	6	7
not						very
at						much
all						so

- | | | | | | | | |
|--|---|---|---|---|---|---|---|
| 1. This person would like me as a close friend. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 2. This person would want me as a co-worker on a class project. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 3. This person would enjoy my company on a 3 hour bus ride. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 4. This person would like me as someone who marries into their family. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5. This person would like me as a classmate. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 6. This person would be willing to participate in a third phase of this study with me. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

APPENDIX H
Consent Forms

CONSENT FORM
ADJUSTMENT TO COLLEGE LIFE

The purpose of this study is to examine how students adjust to college life and how this affects their relationships and daily lives. To do this, we will be giving you a number of self-report questionnaires.

All information is confidential and will be seen only by the experimenters, so please answer accurately and honestly. Furthermore, in any scientific research report resulting from this study, only group data will be reported and no individual participant will be identified. We do ask for your name, student ID #, and phone number on the consent form because within a few weeks, some individuals may be contacted to participate in another study based on their responses to these questionnaires. However, completing the questionnaires in no way obligates you to return for the later study.

It should take approximately 45 minutes to complete these questionnaires. You will receive one extra credit point in Introductory Psychology. You may discontinue your participation in this study at any time without penalty; however, you will not receive the extra credit unless you complete the questionnaires. This study has been approved by the departmental Human Subjects Committee and by the University IRB.

Any questions you have about this study should be directed to:

Janet W. Borden Graduate Research Assistant	961-6914
Teresa K. Meade Research Assistant	961-6914
Dr. Cynthia G. Baum Faculty Sponsor	961-6304
Dr. William Schicht Chair, Human Subjects Committee	961-5346

I understand the conditions outlined above and voluntarily agree to participate in this study.

Subject's name: _____
Subject's phone number: _____
Subject's student ID #: _____
Subject's signature: _____

CONSENT FORM
IMPRESSION FORMATION

The purpose of this study is to examine how previously unacquainted college students get to know each other. To do this, we will ask you to complete several self-report questionnaires. We will also ask you to spend some time interacting with another student. This interaction will be videotaped.

All information is confidential and will be seen only by the experimenters and their assistants. In fact, the tapes will be erased shortly after the researchers have had a chance to review them. We ask that you answer all questions honestly and accurately. Your name and ID # are requested only so that we may give you your extra credit.

This session should last approximately 45 minutes. You will receive one extra credit point toward Introductory Psychology. You may discontinue your participation in this study at any time without penalty; however, you will not receive the extra credit unless you complete the study. This study has been approved by the departmental Human Subjects Committee and by the University IRB.

Any questions you have about this study should be directed to:

Janet W. Borden Graduate Research Assistant	961-6914
Teresa K. Meade Research Assistant	961-6914
Dr. Cynthia G. Baum Faculty Sponsor	961-6304
Dr. William Schicht Chair, Human Subjects Research Committee	961-5346

I understand the conditions outlined above and I understand that I will be videotaped. I voluntarily agree to participate in this study.

Name (please print)

Student ID #

APPENDIX I

Impact Message Inventory Definitions

IMI Subscale Definitions
(Kiesler, 1979)

- | | |
|---------------------|--|
| 1. Dominant | lead, direct, influence and control others |
| 2. Competitive | seek and compete for recognition and status |
| 3. Hostile | criticize, ridicule, punish or aggress against |
| 4. Mistrusting | doubt or suspect the attitudes, feelings and intentions of others |
| 5. Detached | be aloof, withdrawn and seclusive from others |
| 6. Inhibited | withdraw from attention and be shy with others |
| 7. Submissive | be passive and docile and appease others |
| 8. Succorant | get others to help and to take the lead with his problems |
| 9. Abasive | accept blame, belittle himself and apologize to others |
| 10. Deferent | support and serve a person who is superior or a leader |
| 11. Agreeable | be cooperative, helpful, considerate, and equalitarian with others |
| 12. Nurturant | actively support, by sympathetic towards and give advice to others |
| 13. Affiliative | show liking, warmth, and friendship to others |
| 14. Sociable | be gregarious and join groups |
| 15. Exhibitionistic | seek attention, notice and approval from others |

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