PSYCHOLOGICAL AND PHYSIOLOGICAL RESPONSES TO DEPRESSED OTHERS

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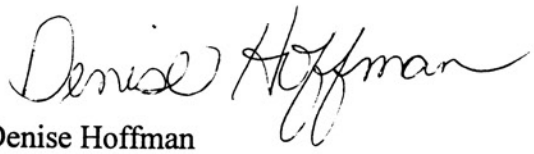
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ABSTRACT

Title of Dissertation:

Psychological and Physiological Responses to Depressed Others

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Effects of target affect and participant and target gender on participants' physiological and psychological responses to a videotape depicting a depressed or nondepressed male or female target were examined. Eighty-eight (44 male and 44 female) nondepressed participants between the ages of 18 and 35 completed the POMS and the BDI and then watched a videotape of a male or female actor simulating either a depressed or normal affect while measures of participants' blood pressure and heart rate were taken. Two original scripts were used for the videotapes which were highly similar. Symptom descriptions in the DSM-III-R (for major depression) guided the development of the depression script. Following the videotape, participants completed questionnaires assessing their willingness to interact with the target in future social situations, their perceptions of the target's personal characteristics, and their current mood. Participants were then given a ten-minute period to prepare for a face-to-face interaction with the target in the tape. Heart rate and blood pressure were recorded during this time after which participants again completed the POMS. No effects for target affect or participant and target gender were found on the POMS. The

depressed targets were significantly more rejected by participants and were perceived as being less pleasant, more negative, less good, more uncomfortable, sadder, weaker, less warm, lower, and more passive than were nondepressed targets. No effects of target affect or participant and target gender were found on any of the physiological measures. Behavioroid measures showed that participants expected the interaction with the depressed target to be less pleasant than with the nondepressed target. Further, participants indicated that they were least looking forward to the interaction with the depressed target, with male participants indicating they were least looking forward to interacting with the depressed male target. The depression variable in this study did not induce negative mood in participants, although it did affect rejection/acceptance. Thus, it would appear that differential responding to a person who is depressed can occur without negative mood induction, at least in a short-term interaction as was used in this study.

PSYCHOLOGICAL AND PHYSIOLOGICAL RESPONSES

TO DEPRESSED OTHERS

by

Denise M. Hoffman

Dissertation submitted to the Faculty

of the Department of Medical & Clinical

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Dedication

To my parents, Arline R. Hoffman and Sheldon E. Hoffman, who instilled in me at an early age, the love of knowledge and the value of education. It is true that life is full of mixed blessings because it was the loss of you both, far too soon in my life, that motivated me to this achievement of a Ph.D. And to the other A.R. in my life, my daughter Ashley Rose, who put the light back into my world.

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Chapter 1

Introduction

Depression has been recorded since antiquity, and descriptions of what are now called mood disorders can be found in many ancient documents. Currently, depression is by far the most common of psychiatric disorders, accounting for 75 percent of all psychiatric hospitalizations. Each year more than 100 million people worldwide develop clinically recognizable depression (Gotlib & Hooley, 1988). Major depression is a common disorder, with lifetime prevalence of about 15 percent, perhaps as high as 25 percent for women. One out of every five women may experience clinical depression during her lifetime; among men the probability is one in ten (Nezu, Nezu & Perri, 1989). This twofold greater prevalence of major depressive disorder in women than in men is an almost universal observation, independent of country or culture. The mean age of onset for major depressive disorder is about 40 years; 50 percent of all patients have an onset between the ages of 20 and 50. The prevalence of mood disorders does not differ from race to race (Kaplan, Sadock, & Grebb, 1994).

The impact of this disorder is significant for both the individual experiencing depression and for society. For example, the costs in decreased work productivity and the expense of treatments have been estimated to be as high as $11 billion per year (Craighead, Kennedy, Raczynski, & Dow, 1984). On a personal level, the toll of

psychological pain and anguish experienced by depressed persons and their families is underscored by the significant number of suicides related to depression: some estimates suggest that as many as 15% of severely depressed people eventually commit suicide (Copas & Robin, 1982; Robins & Guze, 1972).

Without a doubt, depression constitutes a common and serious problem of enormous personal and social significance. Unfortunately, the causal basis for depression is not known. The many attempts to identify a biological or psychosocial cause of mood disorders may have been hampered by the heterogeneity of the patient population that is defined by any of the available, clinically based diagnostic systems, including DSM-IV (Kaplan, Sadock, & Grebb, 1994). The causative factors can artificially be divided into biological factors, genetic factors, and psychosocial factors. The division is artificial because of the likelihood that the three realms interact among themselves. For example, psychosocial factors and genetic factors can affect biological factors (i.e., concentrations of a certain neurotransmitter). Biological and psychosocial factors can also affect gene expression and biological and genetic factors can affect the response of a person to psychosocial factors.

Substantial data have been reported from investigations of family history and/or genetic variables for mood disorders. These studies are of four types: family studies, twin concordance, adoption studies, and modes of transmission. Case-controlled studies of mood disorder in relatives of patients and normal control subjects reveal valuable data. In general, these investigations support the hypothesis of the existence of some genetic factors in mood disorders. Twin studies consistently show that

identical twins are far more concordant for mood disorder than are fraternal twins, and this evidence strongly supports a predominantly genetic contribution to vulnerability (Rehm & Tyndall, 1993). More direct genetic investigations have addressed questions of the exact mode of genetic transmission and what exactly is transmitted. In unipolar depression, parent-child transmission does not follow patterns suggestive of a single dominant or recessive gene, and polygenic transmission seems most probable (Perris, 1968, 1969).

The psychopharmacological research of the past three decades has greatly changed the nature of treatment of depression and has been very influential in the development of biological models of the affective disorders. The somatic symptom patterns, the genetic findings, and the response to pharmacotherapy of depression have led to the development of biological theories of the disorder. Primarily as an outgrowth of pharmacological studies in human and animals, much attention has been directed toward neurotransmitter deficiencies as core deficits in depression. These monoamine theories have been developed focusing on deficiencies in the neurochemical systems involving the catecholamines norepinephrine and dopamine (Schildkraut, 1965), and the indolamine serotonin (Glassman, 1969).

In addition, endocrine models of depression have developed because of the observation that diseases of the endocrine glands often present with depressive symptoms, and because of the discovery of feedback regulation systems connected to sleep, appetitive, and libido centers and related to the monoamine systems. A number of endocrine systems have been studied, including thyroid function, insulin

tolerance, growth hormone, somatostatin, prolactin, and endorphins. These are interrelated and involve the monoamine systems; for a review, see Thase, Frank, and Kupfer (1985).

Several of the endocrine systems show abnormalities in their daily or circadian rhythms in depressed individuals, and it has been noted that the symptoms of depression may also show diurnal variation. For these and other reasons, recent attention has been turned to the possibility of disregulation of biological clock mechanisms in depression. In addition, the observation that in some individuals depression regularly occurs in the fall and winter, followed by normal or hypomanic functioning in the spring and summer, has suggested the possibility of cirannual dysregulation in some persons (Rosenthal et al., 1984).

The biological contributions to depression are often discussed in terms of a diathesis-stress model. Biological predisposition or risk is a diathesis that is insufficient to produce depression, except in interaction with life stress. Psychological models propose psychological diatheses as well, and they therefore assume that reactive depressions are the basic model for the disorder. Psychological diatheses or vulnerability factors interact with environmental stress to precipitate depressions. Each of the theories has led to research exploring implications for assessment, etiology, and psychotherapy for depression. To varying degrees, these approaches have been used to try to explicate problems of classification, epidemiology, sex differences, and biological interactions.

Psychodynamic theory has contributed a number of models to the understanding of depression. Freud's classic psychoanalytic paper "Mourning and Melancholy" (1917/1957) describes depression as the reaction to the loss of an unconscious object. Because of a loss of part of oneself, anger and reproach become self-directed. A number of more recent theorists have focused on differentiating two types of depression or depression proneness. Arieti and Bemporad (1980; Bemporad, 1971) emphasized the failure to internalize standards as the basis of dependency depression and internalization of stringent standards as a basis for dominant goal depressions.

Behavioral approaches to depression share a basic assumption that depression arises from a disruption of response-reinforcement relationships. Charles Ferster (1973) viewed depression as a generalized reduction of rates of response to external stimuli. His basic analogy in learning terms is to the process of extinction. Major losses in life can be seen as losses of important sources of reinforcement. Generalization of the effects of the loss occur because other behavior was chained to, or organized by, the central source of reinforcement.

Peter M. Lewinsohn's behavioral theory of depression (Lewinsohn, 1974; Lewinsohn, Biglan, & Zeiss, 1976) posits that depression is a response to a loss or lack of response-contingent positive reinforcement. Insufficient reinforcement in major life domains leads to dysphoria and a reduction in behavior, which are the primary phenomena of depression. Other symptoms of depression, such as low self-esteem and hopelessness, follow from the reduced level of functioning. One feature of this

theory is the suggestion that once depression occurs, depressive behavior functions to elicit reinforcement from others in the form of concern and succor. Depending on the nature of the contingencies, selective reinforcement by others could contribute to a natural resolution of the depression, but importantly, reinforcement of the depressed behavior per se can function to maintain the depression. Although depressive behavior elicits positive responses from others in the short run, continued depression is aversive to others, and eventually they begin to avoid the depressed person, with the ultimate effect that reinforcement is lacking. The result is that the depressed behavior is maintained on a thin schedule of reinforcement. Reinforcement continues to be insufficient to overcome the depression and, instead, maintains it in a self-perpetuating cycle.

Social skills deficits have been identified as primary causes of depression by a number of theorists. In Lewinsohn's reinforcement model, social skill deficits are one of the three causes for a lack of sufficient response-contingent reinforcement. Wolpe (1979) sees an anxiety-based inability to control interpersonal situations as one route to neurotic or reactive depressions. Nezu, Nezu, and Perri (1989) argue that depressed persons are deficient in problem-solving skills, especially in an interpersonal context. Several theorists have identified marital communication skills as important in depression (Beach & O'Leary, 1986). Another area of research demonstrating the interpersonal nature of depression consists of studies of the impact of the interaction with depressed parents (primarily mothers) on childhood depression and the psychological development of the child (Gelfand & Teti, 1990).

Overall, the social skill approaches represent a diverse group of theoretical positions, research strategies, and therapy models. They share the orientation of looking at depression in terms of its interpersonal causes, manifestations, and effects on others. Putting depression into a more interpersonal perspective is a potentially useful trend that contrasts with the traditional medical model of the disorder.

This dissertation reviews the empirical research related to the interpersonal aspects of depression, focusing on studies of short-term interactions and presents an analogue study to test hypotheses about the effects of depressed affect on interpersonal interactions. Participants will watch a videotape of a male or female actor simulating either depressed or normal affect. They will then complete questionnaires that measure their reactions to the person in the videotape.

Interpersonal Aspects of Depression

Three interpersonal models of depression can be found in the literature: Coyne's (1976b) interactional systems model of depression; Klerman, Weissman, Rounsaville, and Chevron's (1984) interpersonal model of depression; and Feldman's (1976) family systems model. The interpersonal models of depression are predominantly theoretical propositions based on clinical experience. Although differing in their particulars, they share the critical premise that depressives and their significant others have stressful relationships and that these unpleasant relations are instrumental in maintaining or exacerbating depressive episodes. Thus, these models do not address the etiology of depression. According to Klerman (1984), it does not matter what triggers depression. Once it becomes a part of interpersonal interaction,

the distinction between cause and effect disappears; depression perpetuates problems in the relationship and at the same time reinforces itself.

Feldman's (1976) family systems model of depression is the first attempt towards an integrative model of depression; integrating Beck's (1967) early concepts of depression, concepts from the behavioral orientation (stimulus and social reinforcement), and systems theory. Feldman (1976) proposes a relationship between two people, both of whom lack self-worth and use the relationship in a complementary manner in order to enhance their self-worth. Depression, according to this model is functional for both spouses and the treatment of one spouse would not be promising. Thus, Feldman's approach deals with the dynamics between spouses or other pairs of individuals engaged in a long-term relationship. As such, results of a short-term interaction analogue study such as the present dissertation, would not be relevant to his approach. However, they could support the model in a general way.

The interpersonal model of depression specified by Klerman et al.(1984), derives from two theoretical traditions. The first tradition is the work of the pioneers of social psychiatry in the U.S. (Fromm-Reichman, 1960; Meyer, 1957; Sullivan, 1956), who introduced the importance of a contextual orientation in understanding psychopathology. Second, is the behavioral view discussed earlier of deficits in social skills (Lewinsohn, 1974). Klerman et al. (1984) argues that depression occurs in social contexts and is determined by the interpersonal relationships between the depressed person and significant others. Interpersonal relationships refer to all close

relationships such as family, love, friendships, work, and neighborhood or community relationships.

According to Klerman et al. (1984), depression is caused by past, ongoing, or long-term stressful interpersonal situations. Personal dispositions may lead to depression as well. However, the main importance of these dispositions is that they influence interactions with others. Interpersonal therapy (Klerman et al., 1984) has been evaluated in the large National Institute of Mental Health collaborative research program on the treatment of depression (Elkin et al., 1989). Interpersonal therapy was compared to cognitive therapy, a tricyclic antidepressant plus clinical management, and a drug placebo plus clinical management. Interpersonal therapy did equally well as the other two active treatments and was superior to placebo. It is notable that this therapy approach is aimed more at resolving specific current interpersonal disturbances as opposed to teaching more generalizable interpersonal skills.

The investigation of interactions with depressed patients is one of the most important sources for validating the interpersonal models of depression. The studies which have investigated this topic are based on two main paradigms: (1) analogue studies which explore the effect that depression has on others in a laboratory situation; and (2) studies that examine actual relationships and interactions in families of depressed patients (see reviews by Coyne, Kahn, & Gotlib, 1987; Gotlib & Hooley, 1988). The following review will focus on the analogue studies as this literature is most relevant to the present dissertation.

The analogue studies were undertaken primarily to test Coyne's (1976b) interactional systems model, which describes the social interaction of people who are depressed within a systems framework. The model presents an outline of how the behavior of people who are depressed and those around them might come to fit into an emergent interpersonal system - how all involved might inadvertently contribute to the disruption of the relationship and the cultivation of hostility and rejection. Coyne poses an interpersonal process which can reinforce depression. Briefly, the sequence is depression--hostility--rejection--depression. In this model, depressive symptomatology is seen as a set of messages demanding reassurance of the person's place in the social environment. Coyne proposes that symptoms of people who are depressed (verbal expressions of helplessness and hopelessness, withdrawal from interaction, slowing, irritability and agitation) tend to engage others and shift the interactional burden onto them. As a result, people interacting with a person who is depressed usually attempt to provide what is being asked of them. This in turn creates a problem for the individual who is depressed, having to decide whether others are sincere in their assurances of worth and acceptance or if such responses are merely being given because they have been elicited from them. The person who is depressed then uses depressive symptoms to seek repeated feedback to test the nature of his or her acceptance and the security of the relationship. The persistence and repetition of the symptoms is aversive, yet, at the same time, the distress of the individual who is depressed is guilt-inducing and inhibiting of any direct expression of annoyance and hostility from others. The result is an increasing discrepancy between

the verbal content and the affective quality of others' responses. The subtle and overt hostility and rejection that people who are depressed receive validates their sense of insecurity and elicits further expressions of distress, thereby strengthening the pattern. Thus, others may become involved with people who are depressed in ways that unwittingly perpetuate or aggravate their problems.

Relevant Research Findings

Throughout the research on interactions with depressed individuals, investigators have examined the ways people behave with those who are labeled "depressed" and/or how people report feeling after these interactions. In many of the studies on "interactions" with "depressed" individuals participants have not interacted with targets who are actually clinically depressed. Studies using depressed targets (i.e., patients diagnosed as clinically depressed or individuals scoring above a cutoff on a depression scale) will be reviewed first and the remaining studies (i.e., those using confederates or hypothetical cases) will be discussed after.

Depressed Targets

In the first experimental study to examine his model, Coyne (1976a) randomly paired 45 female college students with either a depressed patient, a nondepressed patient, or a normal control and had them talk on the telephone for 20 minutes. The Zung Self-Rating Scale (SDS) was used to select patient target individuals (Zung, 1965). On the basis of SDS scores, 15 depressed (SDS > 55) and 15 nondepressed (SDS < 40) females were drawn from a mental health center outpatient population.

Fifteen control females were drawn from the local community. Both participants and target individuals were told that this was a study of the acquaintance process, that the conversation would be taped and a questionnaire would follow. This procedure was intended to parallel the situation that would be encountered if a person were to strike up a conversation with a stranger seated next to her on the bus. Following the phone conversations, both participants and target individuals filled out questionnaires concerning mood (The Today Form of the Multiple Affect Adjective Check List [MAACL]; Zuckerman & Lubin, 1965), perception of the target, and social rejection. Rejection was assessed by measuring participants' willingness to engage in future interactions with the target under varying conditions. Situations sampled included meeting this person, asking for her advice, sitting next to her on a 3-hour bus trip, inviting her to the participant's home, approving if a close relative were married to her, willingness to work with her on a job, and admitting her to the participant's circle of friends. Tapes of the conversations were scored for activity, other-self ratio (ratio of time spent talking about the other person to time spent talking about oneself), approval responses, hope statements, and genuineness. Results showed that those participants interacting with depressed target individuals experienced greater negative affect, depression, anxiety and hostility as measured by the MAACL. There were no significant differences between mood responses to nondepressed patients and to the normal target individuals. Coyne also found that the depressed target individuals were rejected more than either of the other two target groups. However, an analysis of the

conversations between participants and targets did not differentiate among the three conditions. Coyne interpreted these results as supporting his model of depression.

Several studies have replicated Coyne's (1976a) findings. Two of these studies used depressed individuals as targets. Strack and Coyne (1983) had college students serve as participants and target individuals. The short form of the Beck Depression Inventory (BDI-SF; Beck & Beck, 1972) was used to select target individuals. Sixty participants interacted face to face with either a depressed (BDI-SF, $\underline{M}$ = 9.73) or a nondepressed (BDI-SF, $\underline{M}$ = .58) target individual for 15 minutes and then completed questionnaire measures assessing mood (MAACL), willingness to engage in future interactions, and perception of the other. Half of the participants were told that their responses would remain confidential and half were told that they would be shared with the other person. Participants who interacted with a depressed target reported being more anxious, depressed, and hostile as compared to those who interacted with a nondepressed target. Also, the depressed targets were rejected more by their partners than were the nondepressed targets. Depressed targets correctly anticipated that they were not accepted and although they did not indicate negative perceptions of those with whom they conversed, they did reciprocate the rejection they received. The results of this study suggest that a negative mood induction is not limited to severely depressed patients but can also arise in interactions with a person who is mildly dysphoric.

Boswell and Murray (1981) had 216 (108 males and 108 females) undergraduate students listen to tape-recorded interviews of depressed (n=4) or

schizophrenic (n=4) inpatients or hospital staff (n=4). The twelve target individuals were recruited from among psychiatric inpatients or hospital staff of a medical center. Selection of target individuals was based on an extensive review of medical charts plus the use of the BDI (Beck, Ward, Mendelson, Mock & Erbaugh, 1961) and the Millon Clinical Multiaxial Inventory (Millon, 1977). Depressed targets had to meet the criteria for a unipolar depressive disorder in the Schedule for Affective Disorders and Schizophrenia (SADS; Spitzer & Endicott, 1977) while not meeting the schizophrenic criteria. Schizophrenic targets had to meet the reverse criteria, and normals had to fail to meet either. Targets were interviewed and tape recorded in the hospital by a medical technician who was experienced in medical but not psychiatric interviewing. The goal was to sample the targets' interpersonal style in a social situation. Six standard questions were memorized and asked by the interviewer concerning the target's mood, living situation, occupation, personality, view of the future, and reactions to offers of help. Participants were asked to imagine interacting with the target individual and then completed questionnaires including a self-report mood checklist. Results showed that both depressed targets and schizophrenic targets aroused dysphoric mood and rejection. Although the dysphoric moods elicited by these two groups were similar, they were not identical. Depressed targets aroused less lightheartedness, and schizophrenic targets, more fatigue. Male schizophrenic targets were most rejected and male normals were least rejected by participants. Females in the pathological groups were no more rejected than were normal females. No evidence was found that male depressed targets were significantly more rejected

than female depressed targets. The findings of this study support the hypothesis that interacting with a person who is depressed creates negative mood in others and that they are rejected by others. However, these findings are inconsistent with the idea that dysphoric mood induction or rejection is specific to individuals who are depressed or their unique interpersonal style.

Other investigators using depressed targets have not found support for Coyne's model. King and Heller (1984) used outpatient target individuals in a methodology similar to Coyne's (1976b) original study. Forty-five undergraduate females conversed with depressed psychiatric patients (SDS >47), nondepressed patients (SDS < 40), or nondepressed nonpatients for 20 minutes on the telephone. All patients were interviewed to determine if they qualified for a diagnosis of major depressive disorder according to the Research Diagnostic Criteria (RDC; Spitzer, Endicott, & Robbins, 1975). A section of the SADS was used for this purpose. Nonpatients were screened for depression using the SDS and the SADS interview. Post-conversation mood measured with the MAACL showed that participants who had spoken with a depressed target were not more depressed than participants who had interacted with targets in the nondepressed patient or nondepressed-nonpatient groups. Similarly, McNiel, Arkowitz, and Prichard (1987) failed to find negative mood induction (as reported on the MAACL), rejection effects measured using the Interpersonal Judgment Scale (IJS; Byrne, 1971) or differences in perception of the targets using the Impact Message Inventory (IMI; Kiesler, Anchin, Perkins, Chirico, Kyle, & Federman, 1975). Participants met in person for 15 minutes with either depressed outpatients (BDI >

15), nondepressed outpatients (BDI < 5) or normals. No differences were found across the three conditions in the verbal and nonverbal behaviors of the participants during the interaction.

Working with a student population, Gotlib and Robinson (1982) failed to find any rejection effects or negative mood induction (again using the MAACL to measure mood) when participants met with a depressed target (BDI > 8), compared to a nondepressed target (BDI < 7). However, they did find that participants who interacted with a depressed target smiled less often, demonstrated less arousal and pleasantness in their facial expressions, talked about less positive and more negative content in their conversations, and made fewer statements of direct support than did participants who interacted with a nondepressed target. In one of the few studies to explore gender differences, Borden and Baum (1987) used face-to-face interactions between nondepressed male and female participants (BDI < 2) and "mildly" depressed (BDI > 10) male and female participants. Interactions between same or opposite-sex partners were videotaped and scored with a behavioral coding system. Participants then completed questionnaires concerning perceptions of their partners (IMI), mood (MAACL), and desire for future interactions. They found no differences in how the participants who were depressed behaved during the interactions as compared to the nondepressed participants. However, depression in both males and females was associated with a number of socially unskilled behaviors such as fewer initiations with inquiries, increased somatic complaints, personal problems, psychological complaints, and topic changes. Beyond these similarities, male depression appeared (statistical

analyses were nonsignificant) related to additional indicators of social skills deficits. Higher levels of depression in males were related to less overall initiation of conversation, less initiation of neutral conversation, and to greater periods of silence in response to partner's conversation. No negative mood induction was found. Although they reported a rejection effect for depression, analysis indicated that gender and not depression status accounted for the differences in degree of rejection. That is, males participants were relatively rejected whether depressed or not.

In another study using face-to-face interactions, Dobson (1989) also failed to find any rejection effects or negative mood induction (using the MAACL) when nondepressed female students (BDI < 10) interacted with depressed female targets (BDI > 9). However, the depressed targets believed that they were more rejected than nondepressed targets, and Dobson interpreted these findings as providing greater support for Beck's cognitive model of depression (Beck, 1976) than for an interpersonal one. Similarly, Paddock and Nowicki (1986) found that female college students who met with female students who were depressed (BDI > 10) were no more rejecting in terms of willingness to engage in future interactions than participants who met with students who were nondepressed but maladjusted (BDI < 10).

Most recently, Rosenblatt and Greenberg (1991) failed to find any rejection effects or negative mood induction (using the MAACL) when nondepressed students (BDI < 3) met with depressed students (BDI > 9) for a brief face-to-face interaction. However, the depressed participants reported greater negative mood induction after

interacting with nondepressed targets than they did after interacting with depressed targets.

In summary, most of the studies which had participants meet with depressed targets for brief interactions have not replicated the findings of Coyne's original (1976a) study that depressed individuals induce negative mood in others and are more rejected by them.

Simulated Depression

Researchers have employed two very different methods for simulating interactions with depressed individuals. In some studies, participants actually interact with confederates who enact a depressed role. In other studies participants do not meet the targets, but are exposed to a target either by videotape, audiotape, transcripts, or BDI protocols and are then asked to imagine what they would say to and how they would feel while interacting with the target (i.e., role-enactment studies). Studies which use these methods are able to control the nature and content of the interaction to a much greater extent than those which use depressed targets.

Interactions with Confederates

The use of confederates helps to standardize the behavior of the "depressed" person, but carries with it the risk that confederates will not accurately portray the behavior of a depressed person or that they will not accommodate the flow of interaction in a way that is similar to someone who is not enacting a role. However, researchers who have used confederates as their targets have been more successful at finding rejection effects and negative mood induction effects after short-term

interactions than researchers who used actual depressives as their targets. Reasons for this discrepancy will be addressed in the concluding remarks following the literature review.

Hammen and Peters (1978) had 62 men and 64 women interact in either same-sex or opposite-sex pairs. In each pair, one person acted as the role player, enacting either a depressed or nondepressed role (from a script outline) and the other participant acted as the interviewer and subsequent rater of the role player. Participants did not encounter each other before the procedure began and the interviewer participants were not aware that their partner's interaction was scripted. Participants talked over an intercom system for about five minutes. Following the interaction, interviewer participants completed questionnaire measures. Ratings of interest in further contact, personal rejection, and perceived impairment of role functioning all revealed that depressed persons were more strongly rejected than nondepressed persons and elicited significantly more depression in the listener, especially by persons of the opposite sex.

In another study (Howes and Hokanson, 1979) eight advanced undergraduate psychology majors (five males and three females) served as confederates who portrayed depressed, normal, and physically ill roles. Participants were 30 male and 30 female undergraduate students who interacted with a same sex confederate for seven minutes and then completed questionnaire measures. The scripts consisted of a series of statements in each of four categories: school functioning, maintenance functioning, social life, and the current experimental situation. The scripts were

designed to be equivalent in subject matter and level of self-disclosure. The depressed condition was made up of a script that reported deficits in the school, maintenance, and social areas of life functioning. It further expressed pessimism, self-blame, and negative self-concept. The physically ill confederate reported functioning deficits in the same areas as the depressed confederate; however, the reason for these deficits was serious medical complications resulting from an unspecified illness that involved liver damage. They found that participants who interacted with a "depressive" responded with a higher rate of silences and directly negative comments and a lower rate of overall verbal responding. Participants also were more rejecting of partners who behaved in a depressed manner and described them in more negative terms. However, no induced mood differences (MAACL) were found.

In order to study behaviors that mediate interpersonal responses to depression, Stephens, Hokanson, and Welker (1987) placed 144 female participants in a helping role and randomly assigned them to interact with a confederate in a 3 x 3 x 2 x 2 (Psychopathology x Blaming x Advice seeking x Sex of confederate) factorial design. Male and female confederates enacted depressed, anxious, or normal roles and blamed themselves, others, or no one for their problems. The confederates requested advice in half of the conditions. Scripts for each role consisted of a brief introduction, a comment on the experimental situation, and conversational statements about two personal problems. In total, each script consisted of eight psychopathology symptom-consistent statements, seven blaming role-consistent statements, and three advice-seeking requests (in the advice-seeking condition only), in addition to neutral

introductory and transitional statements. Scripts were approximately equal across conditions in the number of statements, in the sequence and timing of disclosures, and in the presence of statements relevant to the specific role conditions. Participants conversed with the confederate for 15 minutes after which they completed the MAACL and the IMI, which provided an assessment of participants' perceptions of the role plays on interpersonal dimensions. Results indicated that participants who interacted with depressed confederates viewed their partner more negatively and were less interested in future interaction than were participants who interacted with anxious or normal confederates.

In a study by Marks and Hammen (1982), 84 psychology students interacted with confederates previously trained to enact one of three mood states - depressed, neutral, or elated. Participants were randomly assigned to a same-sex confederate and engaged in a brief, face-to-face, structured interview. Mood and self-esteem were assessed prior to the interaction. Mood (MAACL), perceptions of the confederate, and reactions to the confederate were assessed following the interaction. Results indicated induction of depression and anxiety in participants who interacted with "depressed" confederates, and induction of hostility following the interaction with the "elated" confederates. Participants also rejected the "depressed" confederates more than confederates enacting the other two mood states.

Role Enactment Studies

Other investigators have used methods in which participants do not meet the targets, but instead (a) watch a videotape of a confederate, (b) listen to an audiotape

of a confederate, (c) read transcripts that describe different individuals, or (d) read the BDI protocols of fictitious people.

Videotape studies. Amstutz and Kaplan (1987) examined the effects of various depressive behaviors and physical attractiveness on acceptance by others. Male participants watched a videotape of a female confederate who communicated depressed or nondepressed symptoms, either verbally or nonverbally, and who appeared either physically attractive or unattractive. Verbal content was varied through the use of two separate scripts, both containing statements of academic interest and career plans, current living situations, friendships and romantic relationships, and leisure activities. Scripts were highly similar in topics and length, they differed primarily in the reported affective responses to problems presented. Participants first completed the MAACL and then were told that they would be interacting face-to-face with two other people. Participants were informed that they would have a chance to see one on videotape before the interaction, but not the other. After viewing the tape, participants were asked to apportion 30 minutes of interaction between the known and unknown persons (they were allowed to spend from 5 to 25 minutes with one person). The interaction was characterized as either helping or social in nature. Following the time choices, participants completed questionnaires assessing willingness to interact with the confederate in a variety of both casual and more personal situations. Results showed that the nondepressed-content/nondepressed-style confederate was most accepted by participants. Participants who believed the interaction was helping in nature were willing to spend

more time with the attractive confederate who presented inconsistent messages (i.e., nondepressed content/depressed style or depressed content/nondepressed style) than one who was consistent in her communication. No differences were found due to content, style, or attractiveness when participants believed the interaction was going to be social in nature.

Gurtman (1987) examined two features of depressive behavior - affective displays and verbal disclosures using videotapes of a confederate. Participants (62 female, 28 male undergraduates) watched a videotape of a female confederate who appeared sad, flat, or happy in an interview while they listened to an audio track containing depressive or nondepressive disclosures. Control participants heard no disclosures. The audio tracks were based on scripts presenting depressive or nondepressive responses to two successive questions about dating and school. The scripts began with the same narrative about a recent negative life event (a relationship break up or a failed test). In the depression condition, these revelations were followed by disclosures marked by self-devaluation, hopelessness, internal blame, and overgeneralization. In the nondepressive condition, subsequent disclosures reflected adaptive coping and a positive attitude. Other than the depressive-relevant content, the features of the scripts were identical, and they were recorded in the same neutral tone of voice. Participants viewed the material twice, then completed questionnaires assessing their rejection of the target, perception of target's adjustment, role impairment, and evaluation of the person on interpersonal traits. Both depressive affect and depressive disclosures produced negative reactions to the target with the

nature of the disclosure proving especially important in participants' evaluations. In conditions where depressive content was embedded in the disclosure, the person was rejected, devalued, regarded as maladjusted, and perceived as functionally impaired. These reactions were attributable specifically to the depressive content, as the person's objective circumstances and other features of the disclosure were controlled across situations. Displays of depressive affect also elicited negative responses, with both sad and flat affect differing in effect from happy displays. However, these differences emerged only in conditions where disclosures were not heard. Whenever depressed or nondepressed disclosures were congruent with affective displays, the differences between affects were not significant. When participants were exposed to an incongruency between affect and disclosure (i.e., happy affect paired with depressive disclosure or sad affect paired with nondepressive disclosure), evaluations followed the disclosure rather than the affect.

Another study by Gurtman, Martin, and Hintzman (1990) contrasted displays of depression and anxiety using videotapes of a male confederate. Participants (75 female, 30 male undergraduates) watched a videotape of a male target simulating either depressed, anxious, or normal affect. In the depressed condition, the target expressed pessimism, lack of pleasure, low self-esteem, and self-blame. He appeared sad and retarded in speech and movement and had a stooped posture. For the anxious condition, the target expressed apprehension, self-doubts, discomfort, and shakiness. He appeared nervous and fidgety and had a shifting posture. The depictions on the videotapes were reinforced by two 1-page symptom checklist

questionnaires which were reviewed by participants immediately after viewing the video. The questionnaires, allegedly completed by the target and labeled "Anxiety Symptom Checklist" and "Depression Symptom Checklist," were based on items from Zung's Self-Rating Scales and were completed to reinforce the affect depicted in the videotapes. Participants then completed a measure of rejection, perception of the target, and mood. Both anxious and depressed conditions led to rejection and devaluation of the target. However, anxiety and depression had different effects on the perceptions, attitudes, and moods of the participants. Anxiety was associated with perceptions of a self-enhancing self-presentation style while the depressed target's self-presentation was perceived as negative but realistic rather than self-enhancing.

Herr, Perkins, and Whitley (1990) had participants (64 male and 60 female undergraduates) watch one of six videotapes portraying a normal, depressed, or schizotypal female who recently had either been fired from her job for chronic lateness or permanently laid-off when her plant was sold. Scripts for the depressive targets were adapted from transcripts prepared by Winer, Bonner, Blaney, and Murray (1981). Scripts portraying an individual displaying schizotypal personality disorder were developed in collaboration with an experienced clinical researcher. After viewing the videotape, participants filled out the MAACL and a measure of target acceptance/rejection. Depressed targets were rejected more than normals, but not more than schizotypals, and female participants rejected all targets more than did male participants. Schizotypal targets elicited higher reported anxiety in participants,

while depressed targets elicited more fatigue and the depressed-fired individual the most sadness.

Elliott, Yoder, and Umlauf (1990) looked at the reactions of nurses and hospitalized patients with chronic medical conditions to social displays of depression by a person who appeared to have a chronic medical condition. Twenty-seven (17 female, 10 male) nurses and 27 (19 male, 8 female) patients viewed one of four videotapes that depicted a person who appeared to be either able-bodied or physically disabled, and who behaved in either a depressed or an appropriate manner. Participants first completed the Zung Depression Scale. Following the videotape, participants completed the MAACL and a personal attribute and rejection measure. Depressed targets were rejected and perceived to have negative personal attributes by both patients and staff. Additionally, neither group evidenced negative mood after viewing the depressed targets.

Audiotape Studies. In Lynn and Bates (1985), female undergraduates (48) listened to audiotapes of female confederates whom they believed they would meet later. Valence of personal disclosure topics (positive vs. negative) and the attitude expressed (negative/depressed vs. positive/nondepressed) were manipulated in this study. Female confederates disclosed on personal topics that were either positive (expressing rewarding, happy experiences, emotions, or situations) or negative (reflecting unpleasant, unhappy experiences, emotions, or situations). Confederates' disclosures on each topic reflected either positive attitudes (optimism, adequate coping abilities, and relatively positive self-image) or negative attitudes (pessimism,

helplessness, and negative self-image). In this study, affect, as reflected by speech characteristics, was held constant across conditions. After listening to the disclosure tape, participants completed mood rating questionnaires (MAACL) and partner rating forms. The confederates' disclosures of negative attitudes elicited more negative reactions in others (rejection, negative evaluation, psychological withdrawal) than the confederates' disclosures on topics representative of depression.

Transcript studies. Hammen and Peters (1977) compared male (157) and female (189) undergraduates' reactions to descriptions of a male or female student who was experiencing scholastic and interpersonal problems. Descriptions varied only according to symptomatic behaviors, which could be characterized as depressed, anxious, or blunted affect. Participants then rated the severity of the reaction: degree of acceptance of the other as acquaintance, co-worker, or close friend; perceived functioning in roles such as employee, student, date, and partner in a committed relationship; and recommendations for dealing with current situation. They found that depression elicited more rejection of males than of females, and the sex difference in rejection was more pronounced than for anxiety or blunted affect responses. A discriminant analysis suggested that depressed males are especially likely to be perceived as impaired in role functioning as compared with depressed females.

Gotlib and Beatty (1985) had 120 male and 120 female undergraduates read transcripts of either a male or female target who was depressed, nondepressed, or physically ill. In addition, targets exhibited either characterological (blamed negative aspects on his/her personality) or behavioral (focused on negative aspects of his/her

behavior that led to the negative event) attributions for the cause of a negative event in his or her life. The description of the target was written to include the dysphoria, lethargy, and vegetative symptoms characteristic of depression. In order to present a target individual who is experiencing the same degree of dysfunction as the depressed target, similar symptoms were described for the physically ill target; however, it was made clear that the symptoms were due to a bad cold. The normal target was described as functioning well and relatively symptom-free. Participants read the transcripts and were instructed to try to imagine the person described in the transcript as vividly as possible and to imagine interacting with that person. Participants' mood during an imagined encounter with the target was then assessed (MAACL) as well as rejection of the target . Both the depressed and physically ill targets were found to elicit more negative mood and rejection than did the normal targets. In addition, participants reacted more negatively to the characterological than to the behavioral attributional style only when the target was described as normal; these two attributional styles did not elicit differential responses from participants when the targets were already symptomatic. Finally, no differences in mood or rejection were obtained as a function of the sex of either the targets or the participants.

Winer, Bonner, Blaney, and Murray (1981) had participants read transcripts of simulated interactions of depressed or nondepressed targets and then fill out a mood checklist and a social attraction questionnaire. There were four depressive transcript types. All depicted rejection of applications to law school, a breaking up of a relationship with a boy or girl friend, and uncertainty about the future. In the Basic

Depressed transcript the emphasis was on sad mood and pessimism, low self-esteem, feelings of powerlessness and helplessness, fatigue, and retardation. In addition to these basic elements of depression, the Guilty Depressed transcript included guilt, self-blame, and self-punitiveness; the Angry Depressed transcript included external blame, anger, and resentment, and the Dependent Depressed transcript included clinging, whining, and demanding elements. It was found that the basic depressive features (altered mood, lowered self-esteem, hopelessness, and fatigue) common to the three types of depressive personalities (guilty, angry, and dependent) produced dysphoric mood and social rejection. The angry depressed targets were rejected more than the other types of depressed targets by both male and female participants. Male participants were less rejecting of the angry depressed female than male target, while female participants rejected both equally. A second experiment was then conducted to determine whether the rejection of the person who was depressed after a second encounter, was due to the continued depressive mood with no improvement or the rejection of help that was included in all of the depressed scripts used in the second encounter. In this study, half of the scripts were written so that there was clear improvement over the course of the encounter, while there was no improvement for the other half. Within each of these groups, scripts depicted individuals rejecting help, accepting help, or as a control, not being offered help. The results of this second study showed that the effects of depression were magnified by a second encounter with the same target and that this encounter effect was the result of lack of improvement rather than rejection of help.

Robbins, Strack, and Coyne (1979) had undergraduate students listen to recorded descriptions of a male or female person, who was described simply as a friend whom they had known for about a year. Additionally, descriptions were included that the friend was not depressed, had been depressed for a few days or for over a month. Participants then completed an inventory indicating their willingness to disclose specific positive or negative reactions to the person described on the tape. Participants indicated that they were less willing to give positive reactions to depressed individuals and were more willing to give negative reactions to depressed males than females.

BDI protocol studies. In two studies participants read the BDI protocols of fictitious people. Rosenblatt and Greenberg (1988) had moderately depressed (BDI > 10) and nondepressed (BDI < 4) participants evaluate two target individuals on the basis of an attitude survey and a personality inventory (actually the BDI) that each target individual had supposedly filled out. For each participant, one of the targets was made to appear attitudinally similar to the participant (based on an attitude survey that had been completed earlier) and the other was made to appear attitudinally dissimilar. Half of the participants evaluated targets whose BDIs indicated moderate depression (BDI = 21), whereas the other half evaluated targets whose BDIs indicated no depression (BDI = 1). After reading the protocols of both target individuals, participants completed a perceived mood and similarity measure (the Interpersonal Judgment Scale (IJS); Byrne, 1971), and an interest in meeting measure. Participants were also asked to complete an attitude survey and a BDI as they believed their best

friend might and as they believed the average person might. The results showed that nondepressed participants preferred nondepressed targets and perceived them as more similar to themselves than depressed targets. Participants who were depressed, on the other hand, exhibited no difference in perceived similarity or liking of nondepressed or depressed targets. Also, participants who were depressed perceived their best friends as being more depressed and more dissimilar to themselves than did the nondepressed participants.

Sacco, Milana, and Dunn (1985) had 60 participants (18 men and 42 women) read four hypothetical situations. For each situation, participants were asked to carefully examine a completed BDI which indicated that the target person was either nondepressed (BDI = 0) or "mildly to moderately" depressed (BDI = 17). Participants were asked to form an impression of the person who had completed the inventory. Next, participants were asked to imagine that they had known the hypothetical person for either 1 year or a couple of weeks. Participants were then asked to imagine as vividly as possible that they were studying for an exam to be taken the next day when the hypothetical person calls to say he or she would like to talk about a problem. Subsequent to this, participants completed a list of 16 affective adjectives to measure affective responses, a question predicting the likelihood of similar future requests from the person, a question asking how much time they would spend talking to the person, questionnaire assessing desire for future social contact with the person, and a question regarding whether participants had ever had extended contact with a person similar to the hypothetical person. The results provided some support for the

hypothesis that others experience and display mixed reactions to depressed persons, as suggested by an interpersonal view of depression. Affective reactions to the request for help from the depressed person were largely negative, with greater anger felt toward the depressed person than the nondepressed person. However, the emotional reactions to the depressive were not uniformly negative in that an equal amount of concern was experienced for the depressed and nondepressed person. When responses of participants who indicated having prior experience with a person like the hypothetical person were examined separately, depressed persons elicited greater amounts of both concern and anger than nondepressed persons. Participants indicated a willingness to provide the depressed and nondepressed persons with equal amounts of time (approximately 1 hour); however, when asked how much social contact they would be likely to initiate with the depressed person in the future, evidence of rejection of the depressed person was strong. No differences were found between level of depression and length of acquaintance.

Summary and Conclusions

When short-term interactions between strangers are studied, confederates or transcripts and tapes of depressed targets more consistently elicit rejection and negative mood effects than do interactions with depressed individuals (see table 1 for summary). Initially, these results may seem counter-intuitive. One would think that if depressives did elicit rejection and induce negative moods in those who interact with them, then actual depressives should have a greater impact on participants than confederates who are simply enacting a role, and certainly a greater impact than a

voice on a tape or a packet of papers. Several factors may account for these findings and lend support to this research area.

Methodological and measurement issues when identifying depressed targets may contribute to the equivocal results found in the literature. First, researchers have not been consistent in how they identify depressed target individuals. Although most investigators used self-rating scales to identify their depressed targets, there has been considerable variation in the cutoff scores used. Cutoff scores for identifying depressed individuals using the BDI have ranged from as low as 9 (Gotlib & Robinson, 1982) to 15 (McNiel et al., 1987), so that the average depressed target in the Gotlib and Robinson (mean 14) study would not have made the minimum cutoff for the McNiel et al. study.

Another factor regarding the identification of depressed targets which may contribute to the mixed results of this literature is that few investigators limit their depressed targets to individuals who meet diagnostic criteria for a depressive disorder. Most investigators rely solely on severity of depression as measured by a self-rating scale without concern for the diagnosis. There are several reasons why rating scales are inadequate when used to identify depressed cases. An elevated score may be obtained for a variety of reasons, other than suffering from chronic mild depression or a major depressive disorder (Depue & Monroe, 1978). A general reason why rating scales are inadequate for diagnostic purposes is that they are restricted to a limited range of accessible information. Scales only reflect information on the intensity of symptoms, whereas diagnoses are typically formulated on the basis of a wide range

of information available to the clinician, including signs and symptoms, characteristics of onset, previous clinical course and behaviors, psychosocial characteristics, inter-morbid adjustment level, and the presence or absence of other medical or psychiatric disorders (Depue & Monroe, 1978). Since most studies in this area have not diagnosed depressed targets according to currently accepted diagnostic criteria (e.g., Diagnostic and Statistical Manual [DSM-III-R], American Psychiatric Association, 1987) it is difficult to know what exactly is meant by "depressed target".

Additionally, some screening instrument such as the BDI should be used to assess all participants participating in interaction studies. Few studies in this area assess the participants who are responding to the depressed target. This may be very important since depressed participants' responses to a depressed target may be different from nondepressed participants. This was seen in the results of Rosenblatt and Greenberg (1988) when depressed and nondepressed participants reacted to BDI protocols of fictitious people.

An important factor in explaining the confusing results of studies which use depressed targets is the nature of depression. A number of investigators (e.g., Arieti & Bemporad, 1980; Younge, 1966) have provided evidence that depression is heterogeneous in nature and that there are different subtypes of depression. Given this, it would be expected that actual depressed targets (i.e., those who are identified on the basis of their scores on a depression scale or who are diagnosed as depressed) would behave in a variety of different ways. Thus, the variance within the depressed groups in studies which use depressed targets could be enough to lower

the possibility of finding between-group differences. By using simulations of depressed targets, investigators provide their participants with homogeneous targets which increases the possibility of finding between-group differences.

Another methodological and measurement issue is that participants' mood is rarely assessed prior to the interaction with the depressed target. In many studies mood is measured only once, following the interaction when in fact differences may exist between groups prior to that, as was found by Amstutz and Kaplan (1987). It is also worth noting that use of the MAACL to measure participants' mood in all of the short-term interactional studies with depressed targets and in most of the simulated depression studies, is problematic if investigators intended to specify the precise negative mood induced by interacting with depressives. In a factor analytic study, Gotlib and Meyer (1986) found that the MAACL contained only two factors, positive and negative affect. Similarly, the intercorrelation among the Depression, Anxiety, and Hostility subscales of the MAACL reported by Zuckerman and Lubin (1985) are between .7 and .9. Therefore, it is not surprising that in all studies that found negative mood induction using the MAACL there were increases in depression, anxiety, and hostility, while those studies that failed to find negative mood induction failed to find increases in any of these three moods. Even if negative mood findings had been more consistent, they would have been of little value for describing the precise nature of the participants' reactions (Marcus & Nardone, 1992). Therefore, other mood measures such as the POMS or the MAACL-R may be more useful instruments for future studies.

The "psychology of inevitability" may partially explain why participants were more rejecting of depressed targets in the role-enactment studies than when they actually met with depressed targets and points to another methodological issue that may be important for studies in which the participants did not meet with the targets. In most of these studies, the participants were asked to imagine what it would be like to meet the people they read about, listened to, or watched. In only two of these studies (Amstutz & Kaplan, 1987; Lynn & Bates, 1985) were the participants led to believe that they would actually be meeting with the target at a later point in the experiment. This may be important because it may be easier to be critical of and reject another when there is no possibility of being judged by the other or having to face the other, or when no unit relationship has been formed as the result of previous interactions. In a classic study, Darley and Berscheid (1967) gave women folders containing personality data that described two different women, and led the participants to believe that they would be meeting with one of the women to discuss dating behavior and sexual standards. Half of the participants were told it would be the women described in one folder, and half of the women were told it would be the women described in the other folder. They found that the participants liked the woman who was going to be paired with them better than the other woman. Darley and Berscheid concluded that participants justified their preference for the woman they were going to be paired with because an interaction with that woman was inevitable and they were therefore in a "unit relationship." They further concluded that if a situation is introduced to a person in such a way as to cause the perception of a unit

relationship between himself or herself and the person being judged, then, based on the findings of the above study, he or she is likely to increase liking for the other person. More recently, Devine, Sedikides, and Fuhrman (1989) found that participants processed social information differently, depending on whether the stimulus person was described as someone they would be meeting or not. In their recent review of this research, Marcus and Nardone (1992) point out that this tendency may "amplify" the rejection effects in these role-enactment studies. However, the primary reason for studying interactions with depressed individuals is to discover what people do with depressed individuals that may create or maintain depression. If, because of the psychology of inevitability, people are not as rejecting when forced to meet depressed individuals, then the artificial amplification of the rejection effect in the role-enactment studies may be misleading. Therefore, if such a methodology is used, it may be more valid to deceive participants into thinking that they will be meeting with the target.

Gender differences might also help explain why findings of studies in this area have been inconsistent. Coyne's (1976a) original work was based on female participants interacting with female targets and many studies have followed this methodology (e.g., Strack & Coyne, 1983; King & Heller, 1984; McNiel et al., 1987; Gotlib & Robinson, 1982; Dobson, 1989; Paddock & Nowicki, 1986; Lynn & Bates, 1985). It is possible that men and women respond differently to depression. The effect of participant sex on perceptions of depressed targets has received little attention (Stephens, Hokanson, & Welker, 1987). Studies that have examined gender differences (e.g., Hammen & Peters, 1977, 1978; Robbins et al., 1979; Winer et al.,

1981; Gotlib & Beatty, 1985; Borden & Baum, 1987) have found few consistent findings.

Chapter 2

Specific Aims and Hypotheses

This dissertation study was designed to address several gaps in the literature. First, potential participants were screened for any current or past history of emotional or psychological problems and all participants completed a BDI to ensure that they were not currently depressed. Second, participants' mood was assessed prior to watching the videotape to obtain a baseline measure of their mood. In addition, this study used the POMS to assess participant mood. The POMS was designed to assess transient, fluctuating affective states and should provide a more precise description of mood changes experienced by participants than would be possible using the MAACL. Third, based on "the psychology of inevitability", participants were led to believe that they would actually be meeting with the target at a later point in the experiment. This was done to avoid artifactual amplification of the rejection effect. Fourth, gender differences were examined by including both male and female participants' responses to a male and female target individual. Fifth, participants for this study were recruited through local newspapers resulting in a more heterogeneous sample than studies which have used college students.

Finally, physiological responses (blood pressure and heart rate [BP/HR]) of participants were obtained as well as psychological responses. Physiological data provided a measure of participants' psychophysiological reactivity to the depressed and nondepressed targets. No studies in this area have obtained physiological

measurements (BP/HR) of participants during interactions with depressed targets. However, reactivity has been examined in a wide range of laboratory studies looking at the effects of different stressors on physiological and psychological measures.

Psychophysiological reactivity represents a change from baseline of an individual's physiological responses to a stressor or challenge (Krantz & Manuck, 1984). Changes in psychological states in response to stress can also be examined in reactivity research. Reactivity to stress can be operationalized by subtracting resting levels of cardiovascular, endocrine, or self-reports of affect from the level obtained in response to the stressor (delta score). For analyses of the reliability of delta scores see Llabre and colleagues (Llabre, Spitzer, Saab, Ironson, & Schneiderman, 1991). Perhaps the most popular psychophysiological index of stress are electrodermal (galvanic skin response, skin conductance level) and cardiovascular measures (Blascovich & Kelsey, 1990; Contrada & Krantz, 1988; Fowles, 1986; Kasprowicz, Manuck, Malkoff, & Krantz, 1990; Krantz, Contrada, Hill, & Friedler, 1988; Papillo & Shapiro, 1990), where increasing levels or measures are indicative of a stress response.

Current stress investigations conceptualize stress as a process involving environmental and social context, genetic and individual differences, system wide responses in the behavioral, psychological and physiological realms, their mechanisms and mediators (Baum, Davidson, Singer, & Street, 1987; Baum, Grunberg, & Singer, 1982; Eichler, Silverman, & Pratt, 1986; Everly, 1987; Singer & Davidson,1990). Investigators have strongly advised a multilevel assessment of

stress using self-reports, behavior, psychophysiological, and biochemical indices (Baum, Grunberg, & Singer, 1982; Grunberg & Singer, 1990). This multilevel and multimodal approach is evident in the definition of stress by Baum (1990) as a negative emotional experience accompanied by biochemical, physiological, and behavioral changes directed toward adaptation either by manipulating the situation to alter the stressor or by accommodating to its effects. Although physiological and psychophysiological measures have been used most extensively in stress research, they have also been used in social situations similar to the paradigm used in the present study (Blascovich & Kelsey, 1990; Mezzacappa, 1993).

The dissertation research examined physiological and psychological responses of nondepressed others following a simulated interaction with a depressed or nondepressed target individual. The following hypotheses were tested.

Hypotheses

1. Depressed target individuals will elicit more negative mood in study participants than will the nondepressed target individuals. This prediction is based on Coyne's (1976a) interactional systems model of depression.

2. The depressed male target will elicit more negative mood in the study participants than will the depressed female target. This prediction is based on the findings of Hammen and Peters (1977).

3. Depressed target individuals will elicit more rejection (as measured by willingness to interact in the future) in study participants than will the nondepressed target individuals. This prediction is based on Coyne's (1976a) interactional systems model of depression.

4. The depressed male target will elicit more rejection (as measured by willingness to interact in the future) in the study participants than will the depressed female target. This prediction is based on the findings of Hammen and Peters (1977).

5. Female participants will be less rejecting of the depressed targets than will male participants. This prediction is based on the findings of Robbins, Strack, and Coyne (1979).

6. Depressed target individuals will elicit a greater physiological response (increase in BP/HR from baseline) than will nondepressed target individuals. There is no empirical data to support this hypothesis; however, Coyne's model predicts a conflicted response pattern in people interacting with a person who is depressed (i.e., experiencing negative emotions toward and less desire for future contact with the depressed person while at the same time feeling guilty because of the depressed person's distress). Therefore, participants in the depressed target condition, may experience conflictual affective responses which may be reflected in changes in their BP/HR.

Chapter 3

Method

Overview

The study design was a 2 x 2 x 2 factorial with the following factors: target affect (depressed or normal), sex of target (male or female), and sex of participant (male or female). Each cell consisted of 11 participants.

The purpose of the study was to examine male and female participants' reactions and responses to a videotape portraying a depressed or normal male or female target. To provide a reasonable rationale for the measures to be collected, prospective participants were told that the purpose of the study was to investigate how people form impressions. More specifically, they were told that the study was designed to examine similarities and differences in impressions formed by viewing a brief videotape of someone versus having an actual face-to-face interaction. Participants were told that they would view a videotape of someone, complete several questionnaires measuring their impressions and responses to the person and that their heart rate and blood pressure would be assessed to obtain physiological measures of their response to the person in the video. Participants were told the study consisted of two parts, the second being an actual interaction with the individual in the video during which physiological measures would again be taken and additional questionnaires completed following the interaction. Participants were not informed of the true purpose of the study until they had completed their participation in order to

minimize demand characteristics and the tendency to give socially desirable responses.

All participants viewed a videotape in which a male or female actor simulated either depressed or normal affect while measures of participants' blood pressure and heart rate were taken. Participants viewed the videotape privately, in a sound-attenuated chamber. Heart rate and blood pressure measurements were obtained using a Dinamap Adult/Pediatric and Neonatal Vital Signs Monitor. Following the videotape, participants completed questionnaires assessing their willingness to interact with the target in a variety of social situations, their perception of the target's personal characteristics, and their current mood state. Participants were then given a ten-minute period during which they were told to prepare for a face-to-face interaction with the target. Heart rate and blood pressure was also recorded during this time. Participants again completed a measure to assess their current mood state and were then asked to complete the same measure as they thought the person in the videotape would. Following this, participants were informed that the study was really over and that they would not be required to take part in a face-to-face interaction. Participants were then told about the true purpose of the study. After being debriefed, participants were thanked for their participation and paid.

Participants

The sample consisted of men and women recruited from the local community for a study of impression formation. Prospective participants were screened for eligibility and were required to be in good physical health and have no serious

psychological problems. Physical and psychological status were determined by a telephone screening interview (Appendix A). Prospective participants were asked if they were being treated for any emotional or psychological problems and if they had experienced any particular stressful events in the past three months. Participants accepted into the study reported no high blood pressure; no current or recent involvement in therapy with a psychologist or psychiatrist; no use of medications for anxiety or depression; and no problems with alcohol.

The full sample consisted of 88 (44 men and 44 women) participants. The data of two participants (one male and one female) were excluded from the analyses because they scored above nine on the BDI. These participants were subsequently replaced in order to maintain a sample size of 88 (44 men and 44 women).

Volunteers were recruited to participate in "an investigation of how people form impressions about others" through advertisements in local newspapers and notices at nearby universities and community colleges. Confidentiality was ensured by labeling all questionnaires and data forms with a participant identification number. All data was kept in a locked file cabinet. The master list of participants' names and identification numbers was also kept in a locked space, separate from the data, and accessible only to the primary investigator. Participants were assured that they were free to withdraw from the study at any time, and that their responses to the research materials would be kept strictly confidential.

Design

A two (male vs. female participant) by two (male vs. female target) by two (depressed vs. normal target affect) between-subjects design was used to examine the effects of target affect and gender on physiological (BP/HR) and psychological responses of participants (rejection of target, perceptions of target's personal characteristics, and mood). Eighty-eight volunteers (44 males and 44 females) participated in this study with equal numbers of male and female participants randomly assigned to either a male or female, depressed or normal target condition. Power analysis, as described by Cohen and Cohen (1983), suggests that power be conventionally set at .80, and that the effect size be set at d = .15 for a medium effect size and d = .35 for a large effect size. Thus power = .80 and d = .25 (medium-large) for 3 independent variables (sex of participant, sex of target, and depressed or normal affect) at alpha = .01 resulted in a necessary sample of 82.48, which rounded up to a total n of 88 to allow for equal numbers of men and women in the experimental manipulation.

Procedure

Participants responding to the advertisement were enrolled in the study if they met the screening criteria described previously. After completion of the telephone screening interview, interested and eligible participants were brought into the laboratory and randomly assigned to either a "depressed" or "normal", male or female target experimental condition. Experimental sessions were conducted in a comfortable room equipped with a television and VCR. Upon arrival at the laboratory,

participants were given a brief description of the study and signed a consent form for participation in the study. The description of the study was as follows:

> As you were told over the phone, our department conducts research on a wide range of experiences and behaviors. The purpose of this study is to investigate similarities and differences in the impressions people form of others and the reactions they have to others based on viewing a videotape of someone versus having an actual face-to-face interaction. The first thing I will need you to do today is complete several questionnaire measures. When you finish with that I will place a cuff around your arm that will inflate every few minutes - this procedure is like having your blood pressure taken in a doctor's office. I will need you to just sit and relax for a few minutes while I make sure the equipment is working and that accurate readings are being taken. Then I have a short videotape for you to watch. Following the videotape, there are several questionnaires for you to complete asking you about your impressions of the person you have seen in the videotape. This will complete the first part of the study. The second half of the study is a 15-minute face-to-face interaction with the person in the videotape you have watched. We will measure your physiological responses during this interaction and at the end ask you to complete some questionnaires about your impressions of the person. There will be a 10-minute preparation period before the interaction. We want you to use this time to prepare for the interaction. To be more specific, we want you to try to imagine the person you

have seen in the video as vividly as possible and imagine interacting with them. Think about how you feel about the person and how you think you are going to react during the upcoming interaction. It may be helpful for you to reflect back on the video you have just seen and the impressions you have formed of this person When the study is over, I'll answer any questions you may have regarding the study and you will receive your payment. Do you have any questions?

After signing the informed consent (Appendix B), participants were given a demographic measure (to assess basic characteristics such as age, marital status, income, and education), the POMS (to obtain a baseline measure of mood), and the BDI to complete. The BDI was given to measure participants' current level of depressive affect. All efforts were made during the telephone interview to screen out individuals who had a history of or were currently being treating for any emotional or psychological problems. The BDI was given to ensure that participants who participated in the study were not depressed. Participants who scored above nine on the BDI were allowed to participate in the study but their data was excluded and they were replaced to maintain a sample size of 88.

Following completion of the questionnaires, a blood pressure cuff was placed around the participants' non-preferred arm and they were encouraged to relax. Then they were told, "Your second task is to watch a videotape. We will measure your heart rate and blood pressure while you are watching it. When the video is finished

we have a few questionnaires for you to complete." Blood pressure and heart rate was measured every three minutes using a Dinamap Vital Signs Monitor. Participants were instructed to relax for 15 minutes. The last two measurements in this 15-minute period were averaged as the baseline. Participants then watched the videotape for the group to which they had been randomly assigned (i.e., male or female target/depressed or normal affect). A blood pressure reading was taken 2 1/2 minutes into the video, five minutes into the video and immediately after the video was over.

Participants were then asked to complete a packet of questionnaire measures assessing their willingness to interact with the target, their perception of the target, and their mood. Blood pressure and heart rate monitoring was not done during this time. Following completion of the questionnaires, blood pressure and heart rate monitoring was resumed and participants were told that they would have a brief 10-minute period before their interaction. They were encouraged to use this time to prepare for a face-to-face interaction with the person in the videotape that they just watched. Following the 10-minute preparation period, participants completed a final mood measure for themselves and then were asked to complete the same measure as they believed the person in the videotape would. Participants were then told that they would not really be participating in a face-to-face interaction and that their participation in the study was complete. Participants were then debriefed and paid $20 for their participation.

Materials

Four different color-videotape segments with sound were created for use in this study. The four segments represented depressed or neutral affect. The actor in each segment was either a male or female professional actor who had extensive coaching for the two roles. The actors used were as similar in physical appearance and attractiveness as possible. In the video, the actors were seated in front of a neutral background facing the camera. Two original scripts (Appendix C) were used, each about seven minutes in length, in which the actors were being asked to respond to personal questions. The information was general things that people would learn about each other if they were meeting causally for the first time. For example, employment and career plans, current living situations, friendships and romantic relationships, and leisure activities. The statements contained in both scripts were highly similar. The neutral script served as the template for the depressed script and changes were made as necessary for gender of the actor. Symptom descriptions in the DSM-III-R (for major depression) guided the development of the depression script. In the depressed condition, the actor expressed pessimism, lack of pleasure, low self-esteem, and self-blame. They used a heavy, flat voice with a slow rate of speech and slurred words. Visual mannerisms (gestures, facial expressions, body language) were manipulated to convey depressed affect. Mannerisms were developed by varying hand gestures, posture, head movements, eye contact, and facial expressions. In the depressed condition, the target made few gestures, had a slouched posture, kept his or her head

down to avoid eye contact, and retained a look of sadness on his or her face. In the neutral condition, the actors' expressions and behavior were mildly positive, and they appeared animated and comfortable.

Formal Manipulation Check

Sixteen graduate students (8 men and 8 women) who were unaware of the purpose of the study rated two of the four videotapes. Each student viewed one male and one female tape. The possible tape combinations which were viewed were depressed female/normal male, normal female/depressed male, normal male/normal female, and depressed male/depressed female. Order of viewing the videotapes was counterbalanced to control for the effect of order. After viewing each tape, students were instructed to complete the Beck Depression Inventory (BDI) and the POMS as they believed the person in the video would have completed them at the time the video was made. A BDI score of ten or above (averaged across the 8 people rating each tape) was considered acceptable for the depressed-affect videotapes and a BDI score of five or less (averaged across the 8 people rating each tape) was considered acceptable for the normal-affect videotapes. Rating criteria for the BDI was met for each of the four videotapes, indicating that the tapes conveyed their intended impressions. Both the male ($M = 24.25$) and the female ($M = 25.25$) version of the depressed-affect tape met the criteria, as did the male ($M = 4.25$) and female ($M = 4.0$) version of the normal-affect tape. Scores for the depression subscale of the POMs was also computed for each videotape and averaged across the raters. Ratings for the depressed-affect tapes were significantly higher for depression (male

depressed M = 28; male normal M = 12; female depressed M = 35; female normal M = 8) than were those for the normal-affect tapes.

Measures

Depression. The Beck Depression Inventory (BDI) was used to assess participants' current level of depressive affect. The BDI is a 21-item self-report measure (see Appendix D) for assessing severity of depressive symptoms. Each item consists of four alterative statements scored from 0-3 on the basis of severity. Scores range from 0-63 with scores greater 16 considered to be appropriate for therapy. Norms and data on reliability can be found in Beck, Ward, Mendelson, Mock, and Erbaugh (1961).

Acceptance-Rejection of the Targets. The Future Interaction Questionnaire (Winer et al., 1981, Gotlib & Robinson, 1982) was used to assess participants' willingness to engage in future interactions with the targets. The measure (see Appendix D) consists of 13 questions which are answered on a 6-point Likert scale ranging from 1 (not at all) to 6 (very much). This measures has two factors labeled Causal (e.g., Would you like to meet this person? Would you like to sit next to this person on a 3-hour bus trip?) and Intimate (e.g., How likely would it be that this person could become a close friend of yours? Would you ask this person for advice?). Scores for the Causal factor are obtained by summing the first seven items, while the last six items are summed to make up the Intimate factor score. This scale has been used in several other studies in the area assessing social rejection of depressed targets and has been shown to be highly reliable. Alpha reliabilities of .89,

.96, and .93 have been reported for this measure by Strack and Coyne (1983), Gotlib and Beatty (1983), and Herr et al. (1990) respectively.

Perception of Target Scales. Coyne's (1976b) Perception of Target questionnaire was used to measure participants' perception of the target. The first of the scales (see Appendix D) asks the question "How do you think this person would like you to see them?" which is followed by nine bipolar rating scales. The nine ratings are sad-happy, pleasant-unpleasant, negative-positive, good-bad, comfortable-uncomfortable, strong-weak, cold-warm, high-low, and active-passive. The second scale (see Appendix D) asks "What do you think that this person would be like if you really got to know them?" and is followed by the same nine bipolar ratings as described above. Strack and Coyne (1983) report alpha reliabilities for these two scales of .90 and .89.

The Profile of Mood States (POMS). The POMS (McNair, Lorr, & Droppleman, 1971) was used to assess the participants' mood before and after viewing the videotape. The POMS (see Appendix D) was designed to assess transient, fluctuating affective states. It consists of 65 five-point adjective rating scales which are factored into six mood scores: depression-dejection, anger-hostility, tension-anxiety, confusion-bewilderment, vigor-activity, and fatigue-inertia. Each score is derived from the sum of ratings over 7-15 items, and there is no item overlap. Reliability is adequate (K-R 20 values range from 0.84 to 0.95 in two samples of 350 and 650 psychiatric patients). Test-retest correlations range from 0.65 to 0.74, with a median of 0.69; this difference appears to be consistent with the purpose of

measuring fluctuating affective states (McNair, Lorr, & Droppleman, 1971). The POMS is recommended for use with normal participants as well as psychiatric outpatients.

Measurement of Physiological Responses. Physiological responses were assessed by repeated measurements of BP/HR while participants viewed a videotape and prepared for a face-to-face interaction with the target in the videotape. All BP/HR measures were recorded using the Dinamap Vital Signs Monitor, Model 1846 SX. The Dinamap is a microprocessor controlled, noninvasive device that automatically measures systolic pressure, diastolic pressure, mean arterial pressure (MAP), and heart rate using the oscillometric technique. Results are displayed on four large easy-to-read digital displays. Determination frequency can be selected by the operator in varied increments between one and 90 minutes.

When a determination sequence is initiated, the monitor immediately begins a stepped deflation sequence that first determines systole, then MAP, then diastole and pulse rate from pulses induced in the cuff at the varied pressure levels. This is the oscillometric method of determination and is accomplished by a sensitive transducer which not only measures cuff pressure, but also minute pressure oscillations within the cuff. The monitor deflates the cuff one step each time it detects two pulsations of relatively equal amplitude. Time between deflation steps is dependent on the frequency of these matched pulses (pulse rate of patient). However, if the monitor is unable to find any pulse with 1.6 seconds, it deflates to the

next step. The process of finding two matched pulses at each step provides artifact rejection due to patient movement and greatly enhances the accuracy of the Monitor.

At each step the microprocessor stores cuff pressure, the matched amplitude, and the time between successive pulses. The stepped deflation and matched pulse detection continues until diastolic pressure is determined or when total cuff pressure falls below 7 mmHg. The Monitor then deflates the cuff (to zero detected pressure), analyzes the stored data, updates the front panel displays, and prints the time and determination results.

Behavioroid Measures. Following the 10-minute preparation period, participants were asked to answer three questions regarding the upcoming interaction (see Appendix D). A rating scale from 1 (not at all) to 6 (very much) was used for the first two questions. These two questions asked "How much are you looking forward to the upcoming interaction?", and "Do you expect the interaction to be pleasant or unpleasant?". The final question asked the participants what they would do if they were given the option of interacting with the person in the videotape for the full 15 minutes, or of splitting the 15 minutes between that person and another person who was unknown to them; how much time would they spend with each of them? Additionally, the participants were asked why they had split the time as they had.

Statistical Analyses

Statistical analyses were performed using the SPSS-X statistical package. These analyses included examination of the sex of target, affect of target, and sex of participant to test group differences in mood, willingness to interact with the target, and perception of the target. Changes in BP/HR were also examined to determine if there were any differences in physiological responding between the eight groups. Baseline response levels were not of critical interest except as a basis for comparison and to assure comparability of groups before experimental treatment. Therefore, for measures where baseline levels were obtained, scores representing change from baseline were the data of primary importance.

Data from the physiological assessments were analyzed using a repeated measures multivariate analysis of covariance (MANCOVA). Baseline measures were entered as covariates, to statistically control for variance attributed by baseline differences among participants. Target affect (depressed versus normal), sex of target (male or female), and sex of participant (male or female) were entered as between-subject factors, and time was entered as a within-subject factor. For analyses of physiological responses, change from baseline was assessed over time using a 2 x 2 x 2 (Sex of participant x Sex of target x Mood of target) design, with baseline measures entered as a covariate.[1] The last two readings of the five baseline measurements were averaged to constitute the baseline reading. Thus the baseline measure represented an average of two resting blood pressures or heart rates after

the participants had been seated for over 10 minutes and had acclimated to the experimental setting and measurement procedure. The videotape measure was obtained by averaging the three readings that were taken while participants watched the seven-minute videotape. The post-videotape measure was obtained by averaging the four readings that were taken during the 10-minute "preparation" period for the face-to-face interaction.

Subjective response of mood, measured by the POMS was also evaluated with change from baseline scores, using a 2 x 2 x 2 (Sex of participant x Sex of target x Mood of target) MANCOVA, with baseline mood scores entered as a covariate. Univariate analyses of variance (ANOVAs) were performed on baseline measures to determine whether or not there were baseline differences for mood among groups. Univariate ANOVAs were also conducted on the Acceptance-Rejection of Target questionnaire, Perception of Target Scales, Beck Depression Inventory, and background variables such as age, income, and education in order to examine the comparability of these variables among conditions. Differences among groups on responses to the POMS, completed as the participant thought the target would, were also evaluated using ANOVAs. Post hoc tests using the Tukey HSD method were performed when needed. Except where otherwise noted, alpha levels were set at $p<.05$.

Chapter 4

Results

Sample Characteristics

Participants in the study were heterogeneous in age (M = 27 years, SD = 5 years, range = 18 to 35 years), marital status (50% = married, 50% = single), and income (21% = $10,000 or less, 59% = $10,000 to $30,000, 20% = $30,000 or more). They were similar in education (26% = some graduate or professional training, 24% = college graduates, 34% = some college, 6% = high school or less), employment (91% employed outside the home), and race (68% = white, 18% = African-American, 5% = Hispanic, 9% = other). Table 2 provides a summary of demographic information for study participants. Chi-square analyses revealed no differences on any of these measures by sex of participant (male, female), sex of target (male, female), or mood of target (normal, depressed). F tests revealed no differences among the eight groups on the BDI (M = 4.0, SD = 3.0, range = 0 to 9), and all values were consistent with norms for nonpatient samples.

Effectiveness of the Experimental Manipulation

Following the 10-minute period that participants were given in order to prepare for the face-to-face interaction, participants were asked to complete a POMS "as they thought the person in the videotape would fill it out". To examine if the manipulation of target affect was effective in this study, a 2 x 2 x 2 (Sex of participant x Sex of target x Mood of target) ANOVA was performed on the six scales of the POMS. A

main effect of mood of target was found for Tension/Anxiety, $F(1,87) = 5.36$, $p = .023$, Depression, $F(1,87) = 82.08$, $p = .000$, Anger-Hostility, $F(1,87) = 13.17$, $p = .001$, Vigor, $F(1,87) = 46.32$, $p = .000$, Fatigue, $F(1,87) = 104.42$, $p = .000$, and Confusion, $F(1,87) = 36.47$, $p = .000$. The depressed affect targets were seen as being more tense and anxious (Depressed $M = 17.00$, $SD = 5.75$; Normal $M = 14.00$, $SD = 6.14$), more depressed (Depressed $M = 28.48$, $SD = 11.30$; Normal $M = 9.05$, $SD = 9.26$), more angry and hostile (Depressed $M = 6.91$, $SD = 7.29$; Normal $M = 2.23$, $SD = 3.18$), less vigorous (Depressed $M = 6.39$, $SD = 3.00$; Normal $M = 13.27$, $SD = 5.87$), more fatigued (Depressed $M = 12.52$, $SD = 6.11$; Normal $M = 1.66$, $SD = 2.65$), and more confused (Depressed $M = 11.30$, $SD = 4.67$; Normal $M = 6.20$, $SD = 3.05$) than were the normal affect targets (see table 3). These results indicate that the manipulation of target mood in this study was effective.

Mood Scores

Univariate analyses of variance were conducted on the six scales of the initial administration of the POMS. No significant differences were found between designated groups prior to the experimental manipulation on any of the six scales.

To test the hypothesis that depressed target individuals would elicit more negative mood than would the nondepressed targets, a 2 x 2 x 2 (Sex of participant x Sex of Target x Mood of Target) MANCOVA was performed, with baseline mood scores entered as a covariate. The analyses revealed no significant main effects of sex of participant, sex of target, or mood of target on any of the six POMS scales (see tables 4 and 5). Since a Sex of target x Mood of target interaction was not found for

any of the POMS scales, the hypothesis that the depressed male target would elicit more negative mood than would the depressed female target was not confirmed. A significant effect of time was found for all participants on the tension-anxiety, F (1,80) = 80.96, p =.000, and the fatigue, F (1,80) = 4.53, p = .036, scales of the POMS. Participants reported being more tense and anxious (M = 3.81, SD = 3.35) and less fatigued (M = 4.14, SD = 4.53) as the study progressed than they reported feeling initially.

Acceptance-Rejection

In order to test the hypothesis that depressed targets would be more rejected by participants than would the nondepressed targets, a 2 x 2 x 2 (Sex of participant x Sex of target x Mood of target) ANOVA was performed. Significant main effects were found for mood of target on both the Casual and Intimate factors of the acceptance-rejection measure. The normal mood targets were more accepted on the casual items (M = 24.5, SD = 7.06) (i.e., the participants demonstrated a greater willingness to interact with them) than the depressed mood targets (M = 16.75, SD = 6.12), F (1,87) = 28.78, p = .000 . Normal mood targets were also more accepted on intimate items (M = 18.23, SD = 5.82) than were the depressed mood targets (M = 11.23, SD = 3.20), F (1,87) = 47.27, p = .000 (see table 6). Since there was no effect found on either the Casual or Intimate factor for Sex of participant x Mood of target interaction, the hypothesis that female participants would be less rejecting of the depressed targets than the male participants was not confirmed. Additionally, with no Sex of target x Mood of target interaction found for

either the Casual or Intimate factor, the hypothesis that the depressed male target would be more rejected than the depressed female target was not supported.

Perception of Targets

In order to examine participants' perception of the target's personal characteristics, a 2 x 2 x 2 (Sex of participant x Sex of target x Mood of target) ANOVA was performed on each of the nine bipolar ratings for the two scales of the Perception of Target questionnaire. In answer to the question in the first scale, "How do you think this person would like you to see him/her?", participants perceived depressed targets as wishing to be seen as less pleasant, $F(1,87) = 28.57$, $p = .000$, more negative, $F(1,87) = 26.77$, $p = .000$, less good, $F(1,87) = 11.87$, $p = .001$, more uncomfortable, $F(1,87) = 18.96$, $p = .000$, weaker, $F(1,87) = 16.21$, $p = .000$, sadder, $F(1,87) = 22.73$, $p = .000$, less warm, $F(1,87) = 32.84$, $p = .000$, lower, $F(1,87) = 27.45$, $p = .000$, and more passive, $F(1,87) = 23.19$, $p = .000$ (see table 7).

Further, a Mood of target x Sex of target interaction was found for the bad/good ratings, $F(1,87) = 4.43$, $p = .04$. Mean comparisons (Tukey HSD) revealed that the depressed female target was perceived as significantly less good than the normal affect targets. (See Figure 1.) A significant Mood of target x Sex of target interaction was also found for the passive/active ratings, $F(1,87) = 5.24$, $p = .025$. Mean comparisons (Tukey HSD) revealed that the depressed targets were perceived as significantly less active than the female normal affect target. (See Figure 2.) A significant three-way interaction of Sex of participant x Sex of target x Mood of target was found for the uncomfortable/comfortable rating, $F(1,87) = 5.85$, $p = .018$. Mean

comparisons (Tukey HSD) revealed that the male participants perceived the female depressed target as significantly more uncomfortable than the depressed male target or normal affect targets. (See Figure 3.)

In response to the second scale question, "What do you think this person would be like if you really got to know him/her?", depressed targets were seen as less pleasant, $F(1,87) = 28.96$, $p = .000$, more negative, $F(1,87) = 34.53$, $p = .000$, less good, $F(1,87) = 7.69$, $p = .007$, more uncomfortable, $F(1,87) = 14.63$, $p = .000$, sadder, $F(1,87) = 33.11$, $p = .021$, weaker, $F(1,87) = 17.03$, $p = .000$, less warm, $F(1,87) = 27.98$, $p = .000$, lower, $F(1,87) = 51.12$, $p = .000$, and more passive, $F(1,87) = 34.33$, $p = .000$ (see table 7).

Further, a main effect of sex of target was found for high/low, $F(1,87) = 4.31$, $p = .04$, and passive/active rating, $F(1,87) = 17.06$, $p = .000$, with female targets being rated as less low and more active than the male targets. A Mood of target x Sex of participant interaction was found for the uncomfortable/comfortable rating, $F(1,87) = 4.24$, $p = .04$. Mean comparisons (Tukey HSD) revealed that the male participants perceived depressed targets as more uncomfortable than the normal affect targets. (See Figure 4.) In addition, a Mood of target x Sex of participant interaction was also found for the sad/happy rating, $F(1,87) = 5.56$, $p = .02$. Mean comparisons (Tukey HSD) revealed that the male participants perceived depressed targets as significantly more sad than the normal affect targets. (See Figure 5.)

Physiological Responses

Exploration of sex differences at baseline for heart rate (HR), diastolic blood pressure (DBP), and systolic blood pressure (SBP) by ANOVA showed significantly higher SBP for male participants at baseline compared to female participants (M SBP for men = 116.3, SD = 11.9 mmHg, for women = 106.5, SD = 8.0 mmHg, $F(1,87) = 19.67$, $p = .000$. There were no significant differences between males and females for baseline HR or DBP (see table 8).

To test the hypothesis that participants in the depressed target conditions may experience conflictual affective responses which may be reflected in increases in their BP/HR, a 2 x 2 x 2 (Sex of participant x Sex of target x Mood of target) MANCOVA was performed on HR, DBP and SBP, with baseline measures entered as a covariate. The analyses revealed no significant main effects for sex of target or mood of target for HR, DBP, or SBP (see tables 9 and 10). A significant main effect for sex of participant was found for SBP, $F(1,79) = 6.38$, $p = .01$, but this effect was qualified by a significant two-way interaction of Sex of participant x Sex of target, $F(1,79) = 6.70$, $p = .000$. Examination of the simple main effects revealed that the male participants in the female target conditions had significantly greater SBP changes from baseline during the video presentation, $F(1,79) = 5.16$, $p = .026$, (See Figure 6) and during the preparation period, $F(1,79) = 4.56$, $p = .036$, than participants in any of the other groups. (See Figure 7.)

A significant effect of time was found for DBP, $F(1,80) = 13.86$, $p = .000$, and SBP, $F(1,80) = 19.68$, $p = .000$, with changes from baseline increasing over time for all participants. In addition, a significant three-way interaction of Sex of target x Mood of target x Time, $F(1,80) = 4.87$, $p = .03$, was obtained for SBP. Further examination revealed that for the participants in the normal female target condition, $F(1,80) = 5.83$, $p = .018$, and participants in the depressed male target condition, $F(1,80) = 28.25$, $p = .000$, SBP changes from baseline were significantly different during the videotape presentation, but were not significantly different during the preparation period. Systolic blood pressure changes from baseline for the participants in the depressed male target group increased significantly from the video presentation to the preparation period compared to the participants in the normal female target condition but did not differ significantly from the other groups. (See Figure 8.)

Behavioroid Measures

Following the 10-minute preparation period, participants were given three behavioroid measures on which 2 x 2 x 2 (Sex of participant x Sex of target x Mood of target) ANOVAS were performed. When asked to rate "How much are you looking forward to the upcoming interaction?" on a scale from 1 (not at all) to 6 (very much), participants were significantly less looking forward to interacting with depressed targets compared to nondepressed targets, $F(1,87) = 11.71$, $p = .001$. Further, a three-way interaction of Sex of participant x Sex of target x Mood of target interaction

was found, $F(1,87) = 6.72$, $p = .01$. Mean comparisons (Tukey HSD) revealed that male participants indicated that they were least looking forward to the interaction with the depressed male target as compared to the depressed female target and the normal targets, while female participants indicated that they were most looking forward to interacting with the normal female target as compared to the normal male target and the depressed targets. (See Figure 9.)

When asked to rate "Do you expect the interaction to be pleasant or unpleasant?" on a scale from 1 (unpleasant) to 6 (very pleasant), a main effect of mood of target was found, $F(1,87) = 25.49$, $p = .000$, with participants expecting the interaction with the depressed targets ($M = 3.59$, $SD = 1.15$) to be significantly less pleasant than with the normal affect targets ($M = 4.68$, $SD = .8004$).

Participants were asked "If you were given the option of interacting with the person in the videotape for the full 15 minutes, or of splitting the 15 minutes between that person and another person who was unknown to you, how much time would you spend with each of them?" A main effect of mood of target was found, $F(1,87) = 13.52$, $p = .000$, with participants allotting the least amount of time to interacting with the depressed targets ($M = 7.80$, $SD = 3.22$) as compared to the normal affect targets ($M = 10.38$, $SD = 3.35$).

Chapter 5

Discussion

Summary of Results and Hypotheses

Hypothesis 1 predicted that depressed target individuals would elicit more negative mood in study participants than would the nondepressed target individuals. This hypothesis was not supported. There were no significant differences between the change from baseline mood scores of the participants in the depressed target condition compared to those in the nondepressed target condition.

Hypothesis 2 predicted that the depressed male target would elicit more negative mood in study participants than would the depressed female target. This hypothesis was not supported. No significant Sex of target x Mood of target interaction was found, as was predicted by this hypothesis. The only significant effect found for mood was on the tension-anxiety and the fatigue scales of the POMS for all participants across time, with participants reporting being more tense and anxious and less fatigued as the study progressed. The significant effect of mood across time on the fatigue scale is likely due to the fact that all study participants were run during the day. Thus, participation in the study allowed them to take a break from their daily activities. During the study, participants were seated in a comfortable reclining chair in a cool, quiet room, and were specifically instructed to relax during the baseline periods. Participants' reports of feeling more tense and anxious as the study

progressed is likely due to the belief that they would be participating in a face-to-face interaction at the end of the study.

Hypothesis 3 predicted that the depressed targets would elicit more rejection (as measured by willingness to interact with in the future) in study participants than would the nondepressed targets. This hypothesis was supported. Participants demonstrated a greater willingness to have future interactions with the nondepressed targets than with the depressed targets on both a casual and an intimate basis.

Hypothesis 4 predicted that the depressed male target would elicit more rejection (as measured by willingness to interact with in the future) in study participants than the female depressed target. No support was found for this hypothesis.

Hypothesis 5 predicted that female participants would be less rejecting of the depressed targets than would the male participants. This hypothesis was not supported. Depressed targets were more rejected than were the normal affect targets by both male and female participants and no differences in rejection were found due to the sex of the depressed target.

Hypothesis 6 predicted that the depressed targets would elicit greater physiological responses (increase changes in blood pressure and heart rate from baseline) in study participants than would the normal affect targets. No support was found for this hypothesis. No significant main effects were found for sex of participant, sex of target, or mood of target for HR, DBP, or SBP. A few significant results were found for the physiological measures that are of interest however. A two-way

interaction of Sex of participant x Sex of target was found for SBP which showed that male participants in female target conditions had significantly higher SBP than participants in any of the other groups. The experimental procedure may have contributed to this finding. Perhaps anticipating an interaction with a female stranger induced greater affect in male participants, which could have caused them to have greater increases in their systolic blood pressure. The significant time effects, that both SBP and DBP increased for all participants as the study progressed, suggests that the participants were engaged in the study and believed that they were going to participate in a face-to-face interaction with the target near the end of the study.

Relationship of Results to Previous Findings

The depression variable in this study had no effect on participants' mood, although previous studies (e.g., Boswell & Murray, 1981; Marks & Hammens, 1982; Strack & Coyne, 1983; Gurtman, Martin, & Hintzman, 1990; Gotlib & Robinson, 1985), have found that depressed targets have a negative effect on participants' mood. Thus, Coyne's (1976a) suggestion that others are unwilling to pursue interactions with a person who is depressed because of negative mood induction was not supported here. These results are similar to previous studies (e.g., Howes & Hokanson, 1979; Gotlib & Robinson, 1982; King & Heller, 1984; Borden & Baum, 1987; McNiel, Arkowitz, & Prichard, 1987; Amstutz and Kaplan, 1987; Dobson, 1989; Elliott, Yoder, & Umlauf, 1990; Rosenblatt & Greenberg, 1991), which found that depressed mood of a target did not induce negative mood in study participants. However, only a few of the previous studies have assessed participant mood prior to the interaction, as

was done in the present study. Marks and Hammen (1982) obtained an initial measure of participant mood and found a negative mood induction due to depressed affect of a target. However, they had participants complete only one (depression) of the three scales of the MAACL prior to the study, while all three scales were completed at the end. Amstutz and Kaplan (1987) and Borden and Baum (1987) both assessed participants' mood prior to the study and found no negative mood induction in participants due to depressed affect of the target. Thus, the lack of a negative mood induction in the present study supports the findings of Amstutz and Kaplan (1987) and Borden and Baum (1987), and adds another study to the literature in which baseline mood was obtained and no negative mood induction was found. It is possible that negative mood induction found in previous studies where prior mood was not assessed was not a result of the depression variable, but present prior to the study manipulation.

As expected, the depression variable did affect rejection/acceptance of the depressed target as measured by The Future Interaction Questionnaire. This finding is similar to that of many previous studies (e.g., Hammens & Peters, 1978; Howes & Hokanson, 1979; Borden & Baum, 1987; Boswell & Murray, 1981; Strack & Coyne, 1983; Amstutz & Kaplan, 1987; Stephens, Hokanson, & Welker, 1987; Gurtman, 1987; Gurtman, Martin, & Hinztman, 1990), including the first experimental study done by Coyne (1976a) to examine his model, and provides further evidence of a rejection effect in interpersonal interactions with a person who is depressed. Other studies however, have not found depressed targets to be more rejected than nondepressed

targets (e.g., Gotlib & Robinson, 1982; McNiel, Arkowitz, & Prichard, 1987; Dobson, 1989; Rosenblatt & Greenberg, 1991). There may be several reasons for these inconsistent findings. As was discussed previously (see Summary and Conclusions of Relevant Research Findings), when short-term interactions between strangers are studied, confederates or transcripts and tapes of depressed targets more consistently elicit rejection than do interactions with depressed individuals. Several factors may account for this finding that lend support to this research area. One important factor relates to methodological and measurement issues when identifying depressed targets. For example, researchers have not been consistent in how they identify depressed target individuals. This includes considerable variation in the cutoff scores used for self-rating scales. Cutoff scores for identifying depressed targets using the BDI, for example, have ranged from as low as 9 (Gotlib & Robinson, 1982) to 15 (McNiel et al., 1987), so that the average depressed target in the Gotlib and Robinson ($\underline{M}$ = 14) study would not have made the minimum cutoff for the McNiel et al. study. Additionally, few investigators limit their depressed targets to individuals who meet diagnostic criteria for a depressive disorder. Since most studies in this area have not diagnosed depressed targets according to currently accepted criteria it is difficult to know what exactly is meant by "depressed target".

Recently, Coyne (1994) responded to an article by Vredenburg, Flett, and Krames (1993) which supported using self-reported distress in college students as an appropriate analogue for diagnosable depression. Coyne (1994) strongly argued against using measures of self-reported distress as proxy measures of depression or

depressive symptoms, and distressed college students as substitutes for persons meeting criteria for a diagnosis of depression on the basis of a structured interview. He argues that diagnosable depression, whether found in clinical or nonclinical populations, is conceptually and empirically distinct from what is measured by self-report questionnaires. According to Coyne, correlates of diagnosable depression and self-reported distress differ in predictable ways, and a conflation of the two introduces systematic distortions into the literature. In reality, Coyne feels that much of the research concerning self-reported distress in college students has little relevance to clinical depression, and results of such studies can lead to erroneous conclusions when they are the basis of generalizations about depression. Coyne (1994) concludes that psychological approaches to depression are at risk for being slighted because of psychology's continued preoccupation with college students and its failure to distinguish between mild distress and depression in discussing depression and constructing models. Coyne goes on to recommend that a three-stage selection procedure (Schulberg et al., in press) be adopted. In this procedure, subjects would first be screened with a self-report measure, high scorers are then oversampled for the depression questions of the Diagnostic Interview Schedule (DIS; Robins, Helzer, Croughan, & Ratcliff, 1981), and those who are identified as depressed by the DIS then receive the Structured Clinical Interview for DSM-III (SCID; Spitzer & Williams, 1985) or other assessment by a mental health professional. In addition, Coyne states that there is a pressing need for more research concerning diagnosable depression outside of mental settings, as most people do not receive treatment for depression.

Also, many people taking antidepressant medication are likely to receive their prescriptions from a primary care physician rather than from a psychiatrist. Therefore, an exclusive reliance on mental health settings as the source of depressed persons for study introduces systematic biases into the results obtained.

Lastly, few studies in this area assess study participants for depression. This may be very important since people who are depressed have been found to respond differently to a depressed target than do nondepressed people (Rosenblatt & Greenberg, 1988).

In general, participants' perception of the target's personal characteristics showed that the participants perceived the depressed targets' self-presentations to be negative but realistic (i.e., congruent with the actual self). The normal affect targets on the other hand, were perceived as presenting a more self-enhancing presentation of themselves. This finding is in agreement with that of previous studies (e.g., Coyne, 1976a; Gurtman, Martin, & Hinzman, 1990). It is possible that the perception that the depressed targets' self-presentations were negative, but realistic, plays a role in the rejection of the depressed targets by the participants. The self-presentation strategy employed by most people is similar to that of the normal affect targets, to present a self-enhancing image of oneself in an effort to enhance one's public image. However, the depressed targets were perceived as making little effort to do this. Therefore, if the social norm is to present a self-enhancing image of oneself in order to make a positive impression on others, (particularly during a first time encounter), someone who does not do so may be seen as different or strange. This could make others feel

uncomfortable, resulting in a withdrawing from the person in the form of rejection of and a lack of willingness to have any form of interaction in the future with a person who is depressed. Thus, examining participant's attributions regarding a person who is depressed may prove to be an alternative mechanism, as opposed to negative mood induction, for the rejection effect found with depressed individuals.

Limitations and Future Directions

Several aspects of the design of this study may limit the generalizability of the findings. As in other studies in this literature (e.g., Gotlib & Beatty, 1985; Sacco et al., 1985; Winer et al., 1981, Gurtman, Martin, & Hinzman, 1990), an analogue method was used. While controlling for differences in the nature and content of the interaction was necessary to test the effects of target affect and gender, in reality depression is heterogeneous in nature and there are different subtypes of depression. Therefore, actual depressed targets are likely to behave in a variety of different ways and participants' responses to an actual depressed target may be different than their responses to someone who is merely enacting a depressed role. Future research will need to examine real interactions of people who are depressed, as this method will provide a richer and obviously more valid source of information (see Sacco et al., 1985, for a discussion of the analogue method).

Lack of significant findings for the physiological measures in the present study may be due to the fact that participants merely watched a videotape and did not actually interact with a person who is depressed. Actually, the fact that no significant blood pressure or heart rate changes were found is not surprising given that a

frequently used stressor in reactivity studies - a gruesome combat surgery film has also not produced significant findings on these measures in some studies (Zakowski, McAllister, Deal, & Baum, 1992; Nebel et al., in press; Howell et al., in press). The film, about 8 minutes in length, depicts scenes of amputation, debridement, and other surgical procedures. Many subjects react to the film by turning away or not watching closely, yet no group differences were found for blood pressure or heart rate. The videotapes used in this study were mild in comparison and it may be that watching a videotape of a depressed person is not engaging enough to produce changes on these measures in participants. However, an actual interaction may induce greater affect in participants than the act of watching a videotape. Therefore, measurement of physiological responses in future studies where face-to-face interactions actually take place may obtain significant results on these measures which would provide additional support for Coyne's (1976b) interactional systems model of depression.

Another issue that needs to be addressed is that of gender differences in depression. Studies which utilize scripted role plays involving confederates enacting depressed roles, as did the present study, may not accurately portray the behavior of a male who is depressed. Vredenburg, Krames, and Flett (1986) have demonstrated that men generally express their depression in a manner consistent with the traditional male sex roles. That is, they tend to focus on somatic concerns as opposed to psychological ones. Males were characterized by lack of satisfaction, suicidal wishes, work inhibition, somatic preoccupation, and indecisiveness. The symptoms unique to female patients, on the other hand, were ones considered much more consonant with

stereotypic views of women, including self-dislike, crying spells, distortion of body image, fatigability, and irritability. However, they also found a core of general depression symptoms which characterize male and female depressives - namely, dysphoric mood, pessimism, sense of failure, guilty feelings, sense of punishment, self-accusations, social withdrawal, sleep disturbance, loss of appetite, weight loss, and loss of libido. Therefore, although there may be differences in the expression of depression by men and women, there appear to be a great many symptoms that they have in common. The reason no gender differences were found in rejection in this study may be due to the fact that the symptoms displayed by the depressed targets were among the core of general depression symptoms found by Vredenburg et al. (1986). Perhaps if a depressed male target displayed symptoms found by Vredenburg et al. to discriminate females who are depressed (e.g., crying, distortion of body image), one would then find that the depressed male target was more rejected than the depressed female target. It would also be interesting to examine the effect of showing a depressed female target displaying the characteristically male symptoms of depression found by Vredenburg et al. (1986).

Vredenburg et al. (1986) point out that depressed male and female psychiatric patients ought to share certain core symptoms simply by virtue of their having been diagnosed as depressed. However, they also add that males and females should express additional symptoms considered socially acceptable for their gender. That is, if males have in fact experienced social rejection in the past for disclosing feelings of depression, those males who actually seek out treatment ought to present with sex-

typed symptoms that will serve both to gain access to treatment and to minimized damage to their masculine self-concept. This is interesting in regard to the widely acknowledged prevalence of depression between men and women. Recently, in a longitudinal study of a community sample, Amenson and Lewinsohn (1981) investigated a large number of factors that have been hypothesized to account for this sex difference. They examined both artifactual variables, such as differential self-labeling and gender-specific diagnostic biases, as well as psychosocial variables, such as differential role satisfaction, outcome expectation, causal attribution, locus of control, irrational beliefs, responsivity to reinforcement, and experience with aversive events. Using self-report data, Amenson and Lewinsohn (1981) demonstrated that artifactual and psychosocial variables did not discriminate between males and female depressed subjects.

Males and females did differ, however, in the number of prior episodes of depression. While there were no sex differences in the experience of a first episode of depression, female depressives were more likely to have experienced a previous episode. This finding suggests that the sex difference in depression is not in incidence, as is usually assumed, but rather, in lifetime prevalence. Amenson and Lewinsohn (1981) have suggested that this lifetime prevalence difference may be understood in terms of the differential reinforcement of male and female depressives - that is that men are more likely to be punished and rejected for expressing feelings of depression. This differential social reinforcement should have little influence on the occurrence of a first episode of depression: it could, however, influence subsequent

episodes once the male depressive has repeatedly experienced the rejection accompanying the self-disclosure of depression. Therefore, a male who is experiencing a first episode of depression, would not differ much from a depressed female. It is only in subsequent episodes that social reinforcement would influence symptoms and expression of depression for a male. These findings suggest that future research is needed to investigate the differences in expression of depression for males depending on whether it is a first or subsequent episode.

Further, it is important that the role of others be examined more closely in future studies of interpersonal interactions and depression. Ellard et al. (1987) examined the role of others' expectancies in determining the experiences of both parties in dyadic interactions involving a person who is depressed. They found that people who expected that they were going to interact with a depressed person were negative in their evaluation of the actual interaction. Participants who were told the person with whom they would interact was warm and outgoing responded negatively when that person was actually depressed. However, when participants were told that their partner was nurturant and high in self-esteem, but uncomfortable in initial encounters, both participants and their naive depressed partners evaluated themselves and each other positively. These findings suggest that more emphasis be placed on what others bring to an interaction with a depressed person. This also includes the effect past interactions with a depressed person may have on any subsequent interactions with a depressed person. Results from Sacco, Milana, and Dunn (1985) showed that participants who indicated having prior experience with a

depressed person responded differently (i.e., depressed person elicited greater amounts of concern and anger than nondepressed persons) than participants with no prior experience. Thus, there is a need for future studies to examine prior experience of participants with someone who is depressed. This information was obtained from participants in the present study, however, so few participants indicated a prior experience that it did not allow for examination of this variable.

As the depression variable did affect rejection/acceptance in this study, it appears that differential responding to a person who is depressed can occur without negative mood induction, at least in the initial stages of an encounter. Negative mood induction was suggested by Coyne (1976a) as a possible mechanism for why others are unwilling to have future interactions with a depressed person. Therefore, if it is true that differential responding to a person who is depressed occurs without negative mood induction, it does not negate Coyne's model (1976b). It merely indicates that another mechanism is at work, perhaps involving the negative self-presentation of a person who is depressed that was found in this and other studies. However, the participants in this study were provided a very short exposure to a depressed target. It is possible that people who are depressed do induce negative mood in others, but this effect is difficult to find using a single short-term interaction approach. Perhaps repeated exposure to a person who is depressed is required to produce a negative mood induction, or a large enough change in mood to be observed. Winer, Bonner, Blaney, and Murray (1981) found that repeated encounters with individuals who are depressed produce even greater induction of negative mood and rejection than does

a single encounter. In this case, studies which include multiple interactions between participants and a depressed target in a laboratory setting may be more informative of the nature and extent of negative mood induction during interactions with a person who is depressed.

A further recommendation for future studies is the inclusion of an initial measurement of participant mood in order to ensure that any mood differences found are in fact due to the depression variable and not to group differences in mood present prior to the study manipulation. This may help clarify the significance of the negative mood induction portion of Coyne's (1976b) interactional systems model of depression. It should be noted however, that obtaining baseline measures from participants can influence their responses the next time the questionnaire is administered. They may remember how they answered it before and let this affect their answers the second time (Beehr & O'Hara, 1987). Further, exposing participants to a pretest may make them aware of or more sensitive to the variable the experimenter is interested in. However, if used carefully, collection of baseline measures can be a valuable addition to a study design in that it allows for examination of change in a participant's response over time. One way of dealing with the problem of pretesting is to use the Solomon four-group design (Solomon, 1949). Use of this design enables the researcher to assess the presence of pretest sensitization (Braver & Braver, 1988). Pretest sensitization means that "exposure to the pretest increases or decreases the Ss' sensitivity to the experimental treatment, thus preventing

generalization of results from the pretested sample to an unpretested population" (Huck & Sandler, 1973, p. 54).

Additionally, one variable that was not examined in this study, but which could possibly be important, is the age of the target and the participant. The age range of the participants in this study was limited to include participants 18 to 35 years, as the target was presented as being 30 years old. Further research is needed to examine the effect of age on interpersonal interactions in depression.

In summary, the findings of this study provide general support for the interpersonal models of depression (Coyne, 1976b; Feldman, 1976; Klerman et al. (1984). Overall, the results of this study indicate that strangers do respond differently to a person who is depressed than they do to a nondepressed person. The differences in the response seem to be aversive and lead to a desire not to interact with the depressed person in the future. This finding supports the critical premise of the interactional models of depression that depressives have stressful relationships with their significant others. The behaviors responsible for inducing a negative response in strangers may be different from those that create problems in relationships, such as marriage, however, the effects found in stranger studies may be relevant to more intimate relationships. It is even probable that they might be exacerbated when they occur over an extended period of time. The symptoms exhibited by a depressed person may create only small effects in brief interactions with strangers, but could be considerably more aversive when encountered on a daily basis. In addition, this study provides additional support for Coyne's (1976b)

interactional systems model of depression and suggest ways that future studies may test this model further. For example, by including pretest measures of participant mood, physiological measures of participant's response to an interaction or interactions with a person who is depressed, and investigating further other possible mechanisms for (other than negative mood induction) the unwillingness of participants to interact with a person who is depressed in the future.

Implications for Interventions

Participants in this study, even after a brief exposure to a videotape enactment of a depressed role, were more rejecting of the depressed targets as compared to the normal affect targets. They also perceived the depressed targets as presenting themselves in a negative manner. Given this, it would seem important to help people who are depressed learn how to modify how they present themselves when interacting with others. This could include instruction in nondepressive mannerisms, voice tone, and verbalization. Perhaps training in social skills and self-presentation would increase the social desirability of a person who is depressed, resulting in more positive responses and reactions from others. These changes may help a person who is depressed have more positive interactions with others and break the rejection cycle that may help maintain their depressed behavior.

Chapter 6

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Footnote

[1]Performing MANCOVAs on change from baseline scores (subtracting resting levels from the level obtained in response to the stressor) with baseline scores entered as covariates is a frequently used procedure in reactivity studies (e.g., Fleming, Baum, Davidson, Rectanus, & McArdle, 1987; Matthews, Davis, Stoney, Owens, & Caggiula, 1991; Matthews, Owens, Allen, & Stoney, 1992; Matthews & Rodin, 1992; Allen, Stoney, Owens, & Matthews, 1993).

Table 1

Summary of Stranger Studies

Author(s)	Depression Criteria	Method	Results
		Depressed Targets	
Coyne (1976a)	Zung Self-Rating Scale	phone interaction	rejection - yes neg mood - yes
Stract & Coyne (1983)	BDI-SF	face-to-face interaction	rejection - yes neg mood - yes
Boswell & Coyne (1981)	BDI & Millon Inventory	taped interviews	rejection - yes neg mood - yes
King & Heller (1984)	Zung Self-Rating & SADS	phone interaction	rejection - no neg mood - no
McNiel, Arkowitz, & Prichard (1987)	BDI	face-to-face interaction	rejection - no neg mood - no
Gotlib & Robinson (1982)	BDI	face-to-face interaction	rejection - no neg mood - no
Borden & Baum (1987)	BDI	face-to-face interactions	rejection - no neg mood - no
Dobson (1989)	BDI	face-to-face interaction	rejection - no neg mood - no
Paddock & Nowicki (1986)	BDI	face-to-face interaction	rejection - no neg mood - no
Rosenblatt & Greenberg (1991)	BDI	face-to-face interaction	rejection - no neg mood - no
		Simulated Depression - Confederates	
Hammens & Peters (1978)	Depression Adjective Checklist	interaction over phone with same or opposite-sex confed.	rejection - yes neg mood - yes
Howes & Hokanson (1979)		face-to-face interaction with same-sex confederate	rejection - yes neg mood - no
Stephens, Hokanson, & Welker (1987)		face-to-face interaction	rejection - yes neg mood - no

(table continues)

Author(s)	Depression Criteria	Method	Results
		Simulated Depression - Confederates	
Mark & Hammen (1982)		face-to-face	rejection - yes
		structured interview	neg mood - yes
Amstutz & Kaplan (1987)		videotape of a female	rejection - yes
		confederate	neg mood - no
Gurtman (1987)		videotape of a female	rejection - yes
		confederate	neg mood - n/a
Gurtman, Martin, &		videotape of a male	rejection - yes
Hintzman (1990)		confederate	neg mood - yes
Herr, Perkins, &		videotape of female	rejection - yes
Whitley (1990)		confederate	neg mood - yes
Elliott, Yoder, &		videotape of a	rejection - yes
Umlauf (1990)		confederate	neg mood - no
Lynn & Bates (1985)		audiotape of female	rejection - yes
		confederate	neg mood - yes
Hammen & Peters		transcript of male	rejection - yes
(1977)		or female student	neg mood - n/a
Gotlib & Beatty		transcript of male	rejection - yes
(1985)		or female target	neg mood - yes
Winer, Bonner, Blaney,		transcript of simulated	rejection - yes
& Murray (1981)		interaction	neg mood - yes
Robbins, Stack,		recorded descriptions	rejection - yes
& Coyne (1979)		of male or female	neg mood - n/a
Sacco, Milana, &		hypthetical situations	rejection - yes
Dunn (1985)		with completed BDI	neg mood - yes

Table 2

Comparison of Study Participants on Demographic Variables

	Male		Female		Significance
Variable	M	SD	M	SD	
Age	27.8	4.9 yrs.	25.9	4.2 yrs.	$p = .06$
Education	16.0	2.5 yrs.	15.8	2.1 yrs.	$p < .05$
	%	n	%	n	
Race					
White	36.4	(32)	31.8	(28)	ns
Black	10.2	(9)	8.0	(7)	
Hispanic	2.3	(2)	2.3	(2)	
Other	1.1	(1)	8.0	(7)	
Marital Status					
Married	50.0	(22)	50.0	(22)	ns
Single	50.0	(22)	50.0	(22)	
Employed					
Yes	47.7	(42)	43.2	(38)	ns
No	2.3	(2)	6.8	(6)	
Family Income					
< $10,000	0.0	(0)	1.1	(1)	ns
$10-30,000	19.3	(17)	16.0	(14)	
$30-50,000	14.8	(13)	14.7	(13)	
> $50,000	16.0	(14)	18.2	(16)	

Table 3

Mean (Standard Deviation) POMS Scores for Targets as Completed by Participants

	D-Female		D-Male		N-Female		N-Male	
POMS Scale	Male	Female	Male	Female	Male	Female	Male	Female
Tension/Anxiety[a]	18.7(5.5)	16.5(5.4)	18.2(6.7)	14.5(5.4)	10.8(3.4)	14.0(7.6)	15.9(6.8)	15.3(6.9)
Depression[b]	34.5(10.1)	30.7(11.3)	26.4(12.0)	22.3(9.1)	6.5(3.5)	9.9(12.2)	8.3(8.7)	11.5(11)
Anger/Hostility[c]	9.4(7.0)	9.3(8.0)	6.1(8.2)	2.9(3.4)	.8(1.2)	3.5(6.7)	2.6(2.2)	9.3(8.0)
Vigor[d]	7.5(2.6)	4.9(2.5)	6.0(2.6)	7.1(4.3)	10.8(6.5)	15.1(6.9)	14.5(5.8)	12.7(4.3)
Fatigue[e]	13.5(3.0)	11.5(6.6)	14.7(8.2)	10.3(6.6)	.3(0.5)	1.8(3.9)	2.1(2.6)	2.5(3.6)
Confusion[f]	12.9(4.5)	11.5(3.8)	11.7(5.9)	9.1(4.5)	4.3(2.1)	5.6(3.2)	8.5(3.2)	6.5(3.2)

Note. D- is depressed target, N- is nondepressed target. The higher the score, the higher the rating on that scale.

[a]Main effect of target affect $F(1,87) = 5.36$, $p = .023$
[b]Main effect of target affect $F(1,87) = 82.08$, $p = .000$
[c]Main effect of target affect $F(1,87) = 13.17$, $p = .001$
[d]Main effect of target affect $F(1,87) = 46.32$, $p = .000$
[e]Main effect of target affect $F(1,87) = 104.42$, $p = .000$
[f]Main effect of target affect $F(1,87) = 36.47$, $p = .000$

Table 4

Mean (Standard Deviation) Change from Baseline POMS Scores Following Videotape

	D-Female		D-Male		N-Female		N-Male	
POMS Scale	Male	Female	Male	Female	Male	Female	Male	Female
Tension/Anxiety[a]	-2.3(4.2)	-0.2(2.1)	-0.2(3.3)	-1.4(2.9)	-0.2(1.5)	-1.5(2.8)	-3.8(4.0)	-0.7(3.1)
Depression	-1.2(3.0)	0.0(5.5)	-1.1(3.8)	-1.5(2.4)	-1.2(2.2)	-0.5(0.8)	-1.0(3.0)	-1.0(1.3)
Anger/Hostility	-0.9(1.8)	0.5(3.6)	-1.5(3.2)	-0.8(1.3)	0.1(1.2)	-0.2(0.6)	-1.3(1.3)	-0.6(1.0)
Vigor	0.9(3.7)	-1.1(3.8)	-1.5(3.4)	-1.5(2.4)	-2.2(5.0)	1.1(5.3)	0.1(5.3)	-1.0(1.7)
Fatigue[b]	-1.9(1.6)	-0.4(3.4)	0.7(3.3)	-0.5(1.9)	-0.5(3.3)	-1.0(3.0)	-0.9(2.2)	0.3(1.9)
Confusion	-0.5(1.3)	-0.4(2.9)	-0.6(1.8)	0.3(3.5)	-0.5(1.3)	-0.2(1.3)	0.0(1.9)	-1.6(1.6)

Note. D- is depressed target, N- is nondepressed target.

[a]Main effect for time $F(1,80) = 80.96$, $p = .000$
[b]Main effect for time $F(1,80) = 4.54$, $p = .036$

Table 5

Mean (Standard Deviation) Change from Baseline POMS Scores Following 10-Minute Preparation Period

	D-Female		D-Male		N-Female		N-Male	
POMS Scale	Male	Female	Male	Female	Male	Female	Male	Female
Tension/Anxiety[a]	0.6(3.6)	2.6(3.6)	2.9(6.5)	2.2(3.4)	2.3(2.6)	1.9(3.2)	0.9(4.8)	2.1(2.9)
Depression	-1.4(3.2)	-1.5(6.9)	-0.5(6.0)	-1.9(2.8)	-1.2(2.1)	-0.7(1.6)	-1.2(3.8)	-0.6(2.7)
Anger/Hostility	-1.1(2.1)	-0.7(6.3)	-0.2(5.7)	-0.9(1.6)	0.1(0.5)	0.0(0.8)	-0.6(3.2)	-1.2(2.2)
Vigor	0.4(2.9)	-1.9(3.9)	-3.5(4.5)	-0.3(4.8)	-2.8(6.3)	0.7(5.2)	-0.5(5.0)	-0.1(1.6)
Fatigue[b]	-2.5(2.9)	-1.3(4.1)	1.5(7.6)	-1.5(2.6)	-1.3(2.3)	-1.0(2.6)	-2.5(3.1)	-0.5(1.7)
Confusion	-0.7(2.1)	-1.1(2.2)	-0.3(4.5)	-0.4(1.7)	-0.4(1.7)	-0.9(1.6)	0.0(1.5)	-1.2(1.2)

Note. D- is depressed target, N- is nondepressed target.

[a]Main effect for time $F(1,80) = 80.96$, $p = .000$
[b]Main effect for time $F(1,80) = 4.53$, $p = .036$

Table 6

Means (Standard Deviations) of Acceptance/Rejection of Targets

Group	Casual Factor[a]	Intimate Factor[b]
Depressed Female Target		
Female Participant	16.3 (5.8)	10.5 (2.7)
Male Participant	16.0 (5.9)	10.5 (2.1)
Depressed Male Target		
Female Participant	18.4 (7.4)	11.8 (4.6)
Male Participant	16.4 (5.9)	12.2 (2.9)
Normal Female Target		
Female Participant	25.1 (8.8)	18.4 (6.5)
Male Participant	23.5 (6.9)	17.1 (5.4)
Normal Male Target		
Female Participant	25.8 (6.1)	19.8 (4.9)
Male Participant	23.6 (6.9)	17.6 (6.7)

Note. The higher the score the greater the willingness of the participant to interact with the target in the future.

[a]Main effect of target affect $F(1, 87) = 28.78$, $p = .000$
[b]Main effect of target affect $F(1, 87) = 47.27$, $p = .000$

Table 7

Means (Standard Deviations) of Participant Perception of Target Questionnaire

Target Characteristic	D-Female		D-Male		N-Female		N-Male	
	Male	Female	Male	Female	Male	Female	Male	Female
	Ratings on "How do you think this person would like you to see him/her?"							
Unpleasant/ pleasant[a]	3.5 (1.4)	4.0 (1.4)	3.7 (1.6)	4.6 (1.1)	5.4 (1.0)	5.5 (0.9)	5.2 (1.0)	5.3 (1.0)
Negative/ positive[b]	2.6 (1.1)	3.5 (1.6)	4.0 (1.0)	3.6 (1.3)	4.8 (1.5)	5.0 (1.3)	4.7 (1.2)	4.9 (1.0)
Bad/good[c/j]	3.5 (1.4)	4.0 (1.4)	3.7 (1.5)	4.6 (1.1)	5.4 (1.0)	5.5 (1.0)	5.2 (1.0)	5.3 (1.0)
Uncomfortable/ comfortable[d/l]	1.9 (1.0)	3.7 (1.7)	3.5 (1.6)	3.7 (1.6)	4.9 (1.4)	4.3 (1.0)	4.0 (1.2)	4.5 (1.0)
Sad/happy[e]	2.2 (1.2)	3.2 (1.7)	3.1 (1.3)	3.4 (1.6)	4.5 (1.4)	4.2 (0.9)	4.4 (1.2)	4.1 (0.7)
Weak/strong[f]	2.9 (1.0)	3.5 (1.6)	3.6 (1.1)	4.1 (1.1)	4.5 (1.1)	4.7 (0.8)	4.3 (1.1)	4.5 (1.0)
Cold/warm[g]	2.9 (0.5)	3.6 (1.5)	4.1 (1.2)	4.3 (1.0)	5.4 (0.8)	4.6 (1.0)	4.7 (0.9)	5.1 (0.7)
Low/high[h]	2.6 (0.9)	3.1 (1.3)	3.0 (1.5)	3.4 (1.6)	4.7 (1.0)	4.5 (1.1)	4.5 (1.0)	3.8 (0.8)
Passive/active[i/k]	2.5 (1.1)	3.2 (1.7)	2.8 (1.6)	3.4 (1.3)	5.0 (1.0)	4.7 (1.3)	3.9 (1.3)	3.7 (1.4)

[a]Main effect of target affect $F(1, 87) = 28.57$, $p = .000$
[b]Main effect of target affect $F(1, 87) = 26.77$, $p = .000$
[c]Main effect of target affect $F(1, 87) = 11.87$, $p = .001$
[d]Main effect of target affect $F(1, 87) = 18.96$, $p = .000$
[e]Main effect of target affect $F(1, 87) = 22.73$, $p = .000$
[f]Main effect of target affect $F(1, 87) = 16.21$, $p = .000$
[g]Main effect of target affect $F(1 ,87) = 32.84$, $p = .000$
[h]Main effect of target affect $F(1, 87) = 27.45$, $p = .000$
[i]Main effect of target affect $F(1, 87) = 23.19$, $p = .000$

[j]Target affect x sex of target interaction $F(1, 87) = 4.43$, $p = .04$
[k]Target affect x sex of target interaction $F(1, 87) = 5.24$, $p = .03$
[l]Target affect x sex of target x sex of participant interaction $F(1, 87) = 5.85$, $p = .02$

(table continues)

Target	D-Female		D-Male		N-Female		N-Male	
Characteristic	Male	Female	Male	Female	Male	Female	Male	Female
	Ratings on "What do you think this person would be like if you really got to know him/her?"							
Unpleasant/ pleasant[a]	3.8 (0.9)	3.8 (1.2)	3.5 (1.5)	4.5 (1.0)	5.1 (0.8)	4.9 (0.8)	5.1 (1.0)	5.2 (0.8)
Negative/ positive[b]	2.8 (1.1)	2.7 (1.3)	2.5 (1.2)	3.0 (0.9)	4.4 (1.3)	4.1 (1.4)	4.2 (1.1)	4.3 (1.0)
Bad/good[c]	4.3 (0.9)	4.5 (1.0)	4.1 (0.7)	5.1 (0.8)	4.8 (1.1)	5.2 (0.9)	4.9 (0.8)	5.2 (0.9)
Uncomfortable/ comfortable[d/l]	3.2 (1.2)	3.4 (1.1)	3.0 (1.3)	4.1 (1.4)	4.4 (1.0)	4.3 (1.0)	4.5 (0.7)	4.0 (0.8)
Sad/happy[e/m]	2.7 (1.0)	2.8 (1.2)	2.2 (1.1)	2.7 (1.2)	4.8 (0.8)	3.5 (1.3)	4.0 (1.3)	3.7 (1.2)
Weak/strong[f]	2.6 (0.9)	3.3 (1.2)	3.2 (0.6)	3.0 (1.0)	4.1 (1.0)	4.1 (0.9)	3.5 (0.8)	3.7 (1.0)
Cold/warm[g]	3.4 (0.9)	3.5 (1.0)	3.9 (1.1)	3.9 (1.0)	4.8 (0.8)	4.5 (0.9)	4.8 (0.9)	4.9 (1.1)
Low/high[h/i]	2.5 (0.9)	3.1 (0.8)	2.5 (0.8)	2.5 (1.2)	4.5 (0.8)	4.2 (1.0)	4.0 (0.9)	3.7 (0.9)
Passive/active[j/k]	2.8 (1.0)	3.2 (1.5)	1.8 (0.8)	2.3 (1.4)	4.6 (0.9)	4.2 (1.2)	3.4 (0.8)	3.5 (1.1)

Note. D- is depressed target, N- is nondepressed target. Bipolar rating scales ranged from 1 to 6.

[a]Main effect of target affect $F(1, 87) = 28.96$, $p = .000$
[b]Main effect of target affect $F(1, 87) = 34.53$, $p = .000$
[c]Main effect of target affect $F(1, 87) = 7.69$, $p = .007$
[d]Main effect of target affect $F(1, 87) = 14.63$, $p = .000$
[e]Main effect of target affect $F(1, 87) = 33.11$, $p = .021$
[f]Main effect of target affect $F(1, 87) = 17.03$, $p = .000$
[g]Main effect of target affect $F(1, 87) = 27.98$, $p = .000$
[h]Main effect of target affect $F(1, 87) = 51.12$, $p = .000$
[i]Main effect of sex of target $F(1, 87) = 4.31$, $p = .040$
[j]Main effect of target affect $F(1, 87) = 34.33$, $p = .000$
[k]Main effect of sex of target $F(1, 87) = 17.06$, $p = .000$

[l]Target affect x sex of participant interaction $F(1, 87) = 4.24$, $p = .040$
[m]Target affect x sex of participant interaction $F(1, 87) = 5.56$, $p = .020$

Table 8

Baseline Means (Standard Deviations) of Cardiovascular Measures

Group	Systolic BP[a] (mm Hg)	Diastolic BP (mm Hg)	Heart rate (bpm)
Depressed Female Target			
Female Participant	104.3 (9.4)	65.3 (7.7)	62.7 (9.1)
Male Participant	114.5 (14.0)	64.5 (9.6)	66.3 (15.4)
Depressed Male Target			
Female Participant	104.9 (6.5)	71.9 (6.9)	61.8 (10.6)
Male Participant	117.1 (14.6)	69.6 (11.2)	61.5 (11.9)
Normal Female Target			
Female Participant	107.7 (7.3)	68.9 (5.7)	64.3 (11.7)
Male Participant	116.3 (10.8)	68.7 (10.4)	58.7 (9.6)
Normal Male Target			
Female Participant	109.1 (8.7)	68.8 (10.0)	67.0 (10.6)
Male Participant	117.5 (8.8)	68.2 (8.9)	59.4 (10.9)

[a] $F(1,87) = 19.67$, $p = .000$

Table 9

Mean Change from Baseline (Standard Deviations) of Cardiovascular Measures During Videotape Viewing

Group	Systolic BP[a] (mm Hg)	Diastolic BP (mm Hg)	Heart rate (bpm)
Depressed Female Target			
Female Participant	1.8 (3.1)	1.8 (2.3)	4.6 (6.6)
Male Participant	4.1 (5.2)*	5.3 (5.3)	3.8 (4.4)
Depressed Male Target			
Female Participant	0.0 (6.8)	0.0 (3.5)	7.1 (10.7)
Male Participant	0.5 (4.9)	1.7 (5.2)	0.9 (6.4)
Normal Female Target			
Female Participant	0.5 (3.0)	0.8 (3.1)	3.5 (5.1)
Male Participant	7.4 (6.5)*	3.8 (4.5)	3.8 (5.1)
Normal Male Target			
Female Participant	1.8 (3.8)	2.9 (5.4)	3.7 (5.2)
Male Participant	2.6 (3.8)	2.3 (4.5)	3.3 (6.6)

[a]SBP main effect for sex of participant $F(1,79) = 6.38$, $p = .01$

* sex of participant x sex of target interaction $F(1,79) = 5.16$, $p = .03$

Table 10

Mean Change from Baseline (Standard Deviations) of Cardiovascular Measures During 10-Minute Preparation Period for Interaction

Group	Systolic BP[a] (mm Hg)	Diastolic BP (mm Hg)	Heart rate (bpm)
Depressed Female Target			
Female Participant	2.8 (4.6)	4.2 (6.6)	5.1 (5.5)
Male Participant	4.1 (5.2)*	4.6 (5.5)	0.8 (6.8)
Depressed Male Target			
Female Participant	6.5 (5.0)	3.0 (3.7)	9.3 (13.3)
Male Participant	4.4 (4.2)	3.7 (4.5)	2.7 (6.5)
Normal Female Target			
Female Participant	2.2 (5.9)	3.4 (3.1)	2.4 (5.2)
Male Participant	8.5 (5.2)*	5.2 (4.1)	3.8 (4.2)
Normal Male Target			
Female Participant	3.6 (5.3)	5.2 (4.5)	3.9 (7.3)
Male Participant	2.7 (4.4)	4.3 (3.0)	2.6 (3.6)

[a]SBP main effect for sex of participant $F(1,79) = 6.38$, $p = .01$

* sex of participant x sex of target interaction $F(1,79) = 4.56$, $p = .04$

Figure 1

Interaction of Target Affect and Gender on Participants' Ratings of Bad/Good How Target Would Like to be Seen Scale

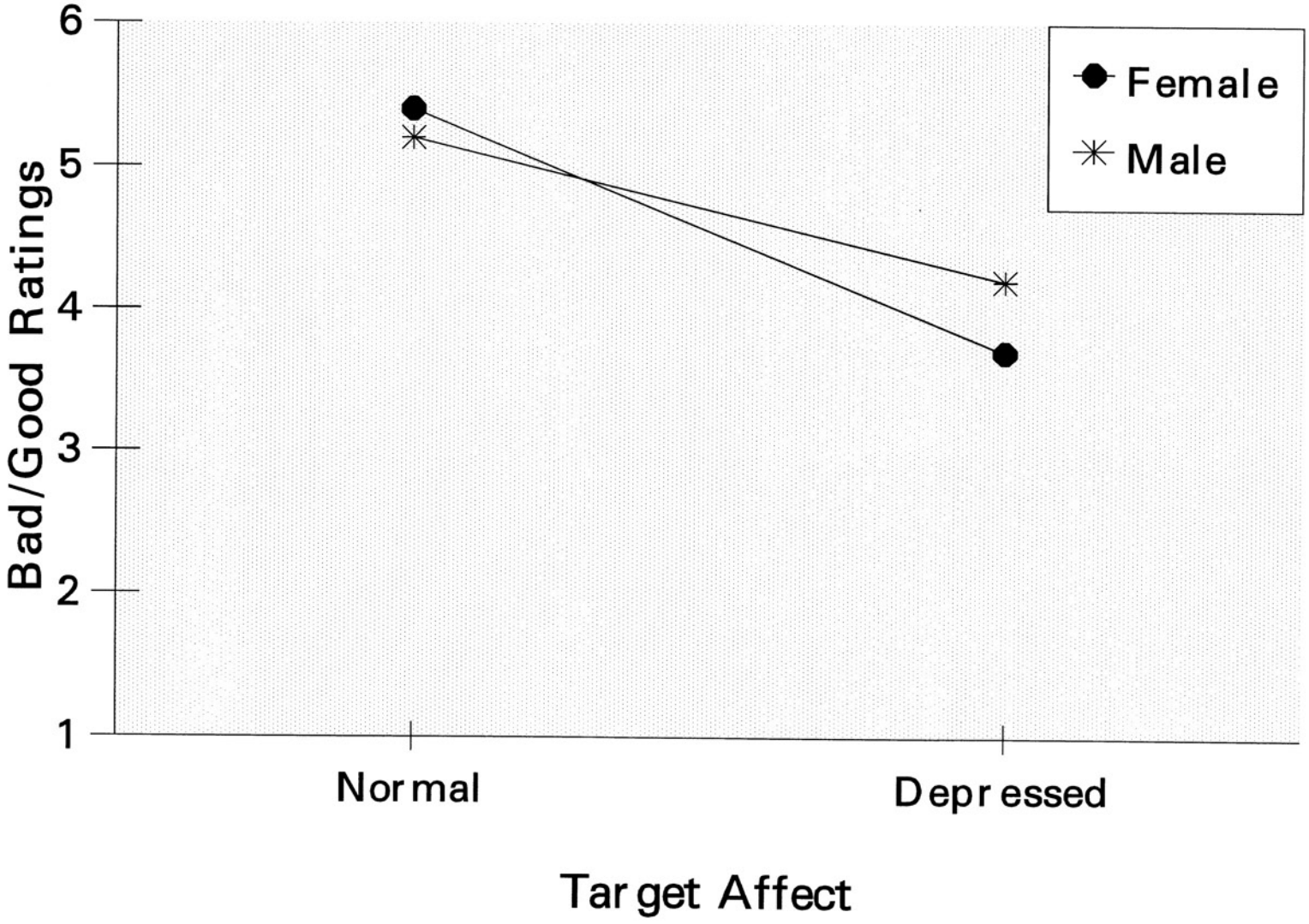


Figure 2

Interaction of Target Affect and Gender on Participants' Ratings of Passive/Active How Target Would Like to be Seen Scale

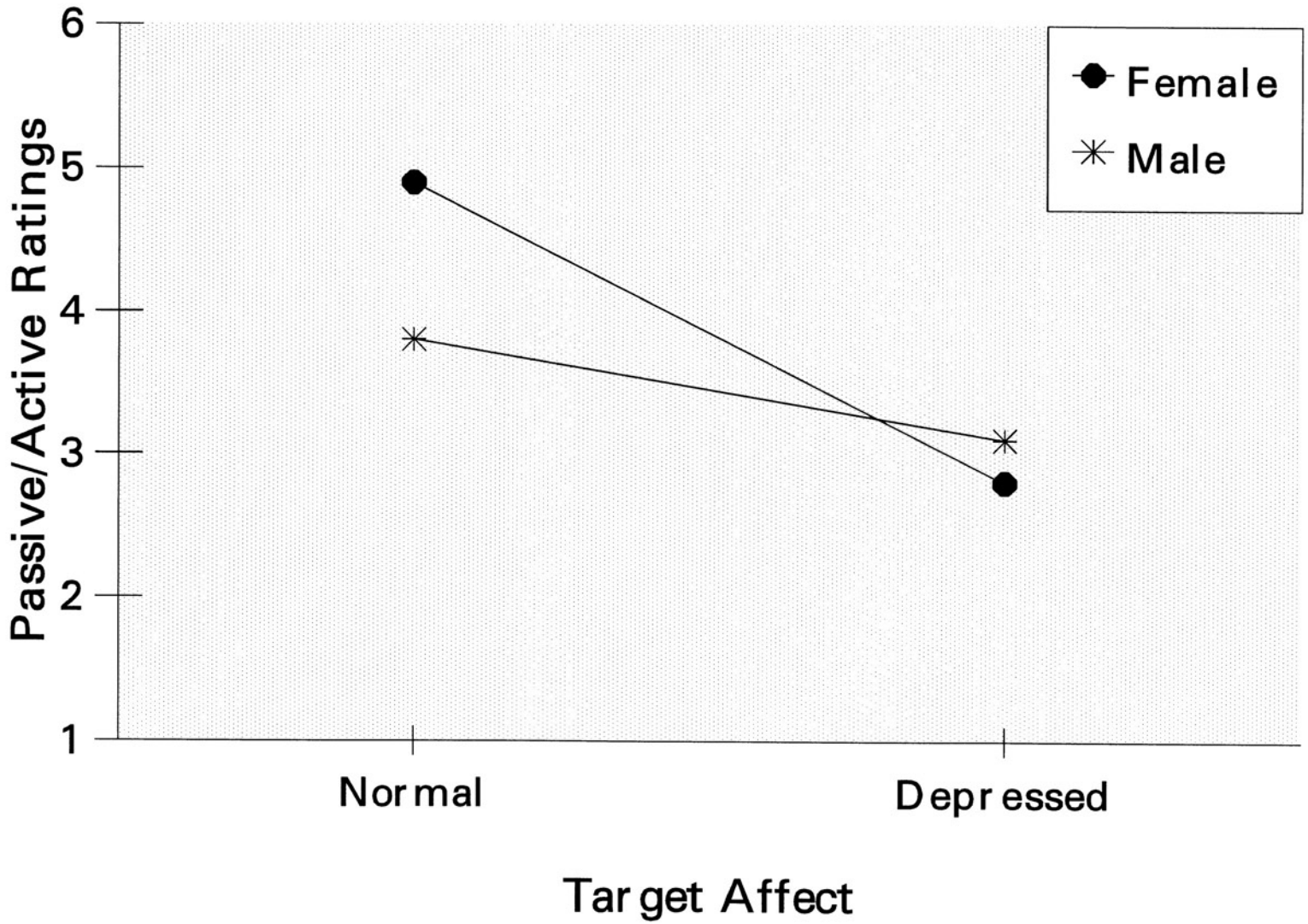


Figure 3

Interaction of Participant Gender and Target Gender and Affect on Ratings of Uncomfortable/Comfortable on How Target Would Like to be Seen Scale

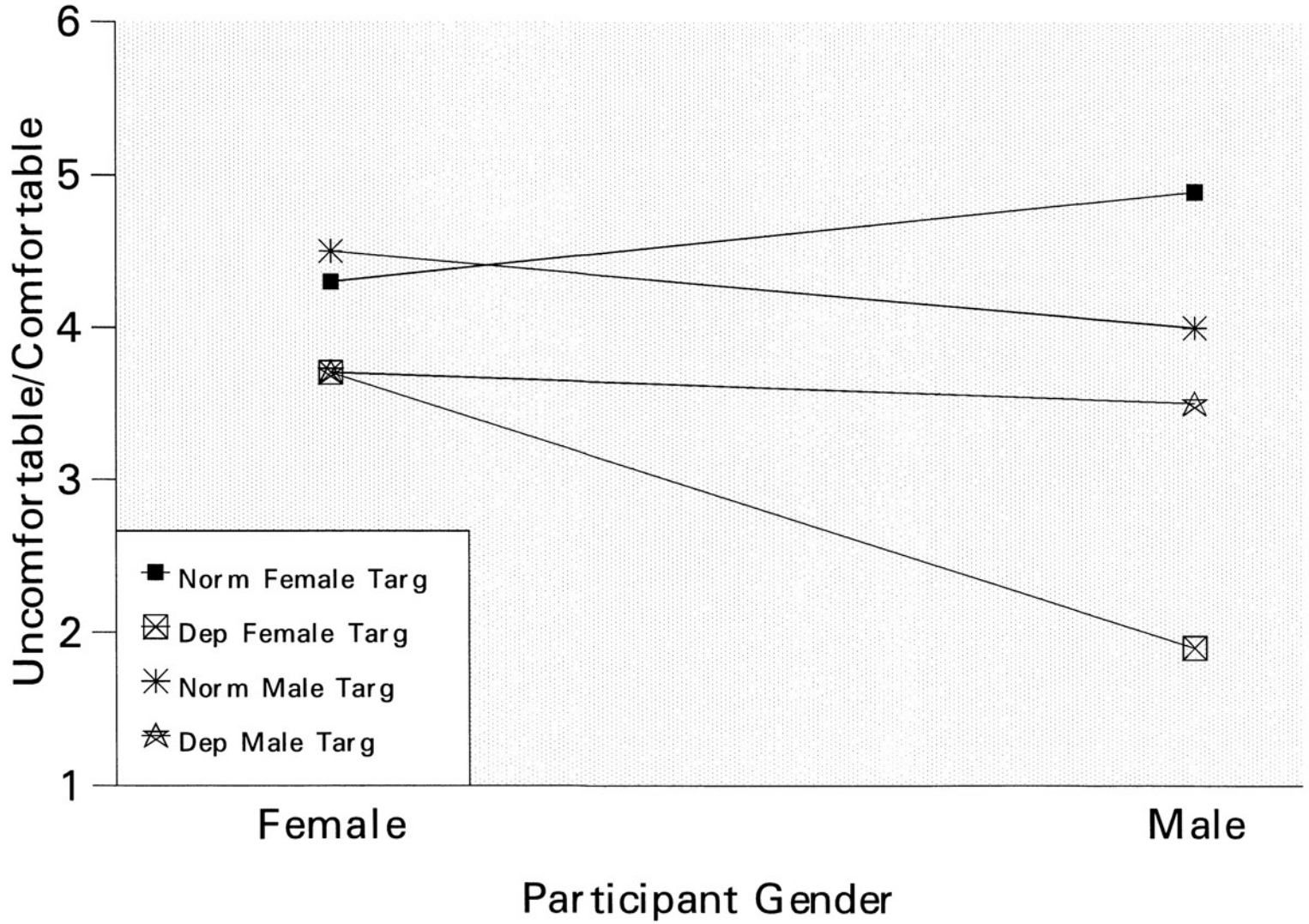


Figure 4

Interaction of Target Affect and Participant Gender on Ratings of Uncomfortable/Comfortable on How Target Really Is Scale

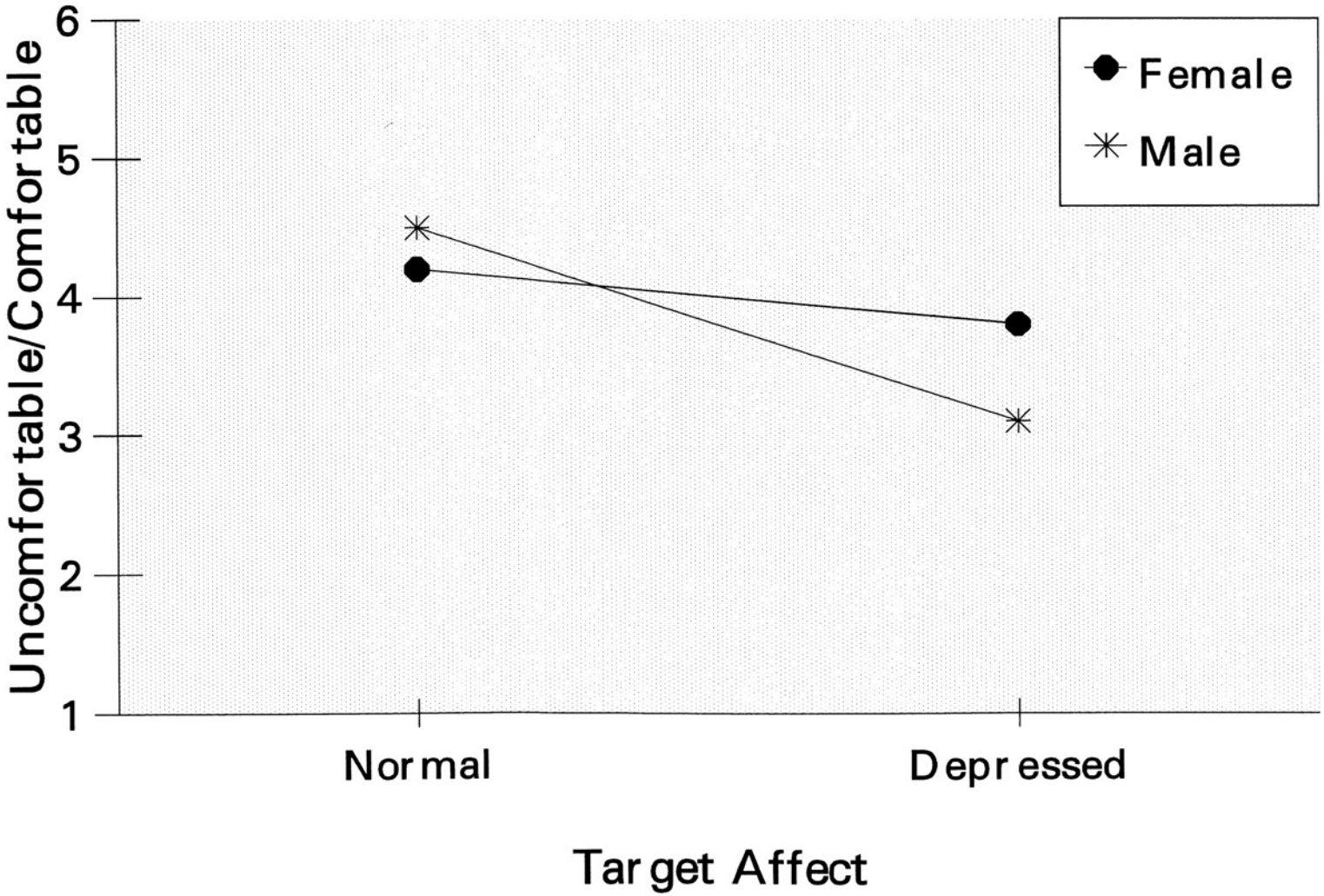


Figure 5

Interaction of Target Affect and Participant Gender on Ratings of Sad/Happy on How Target Really Is Scale

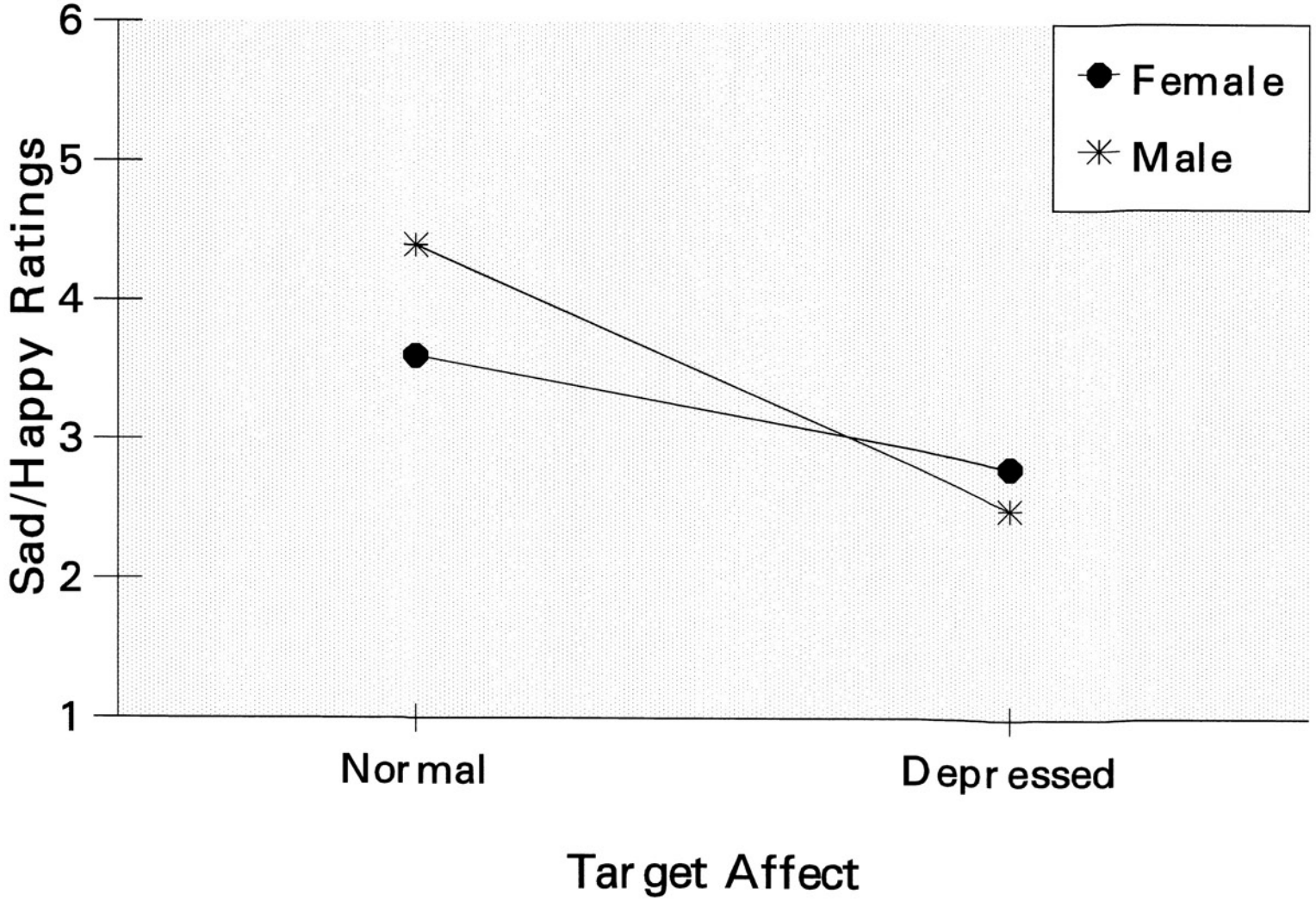


Figure 6
Interaction of Target Gender and Participant Gender on Participants' SBP Change from Baseline During Videotape

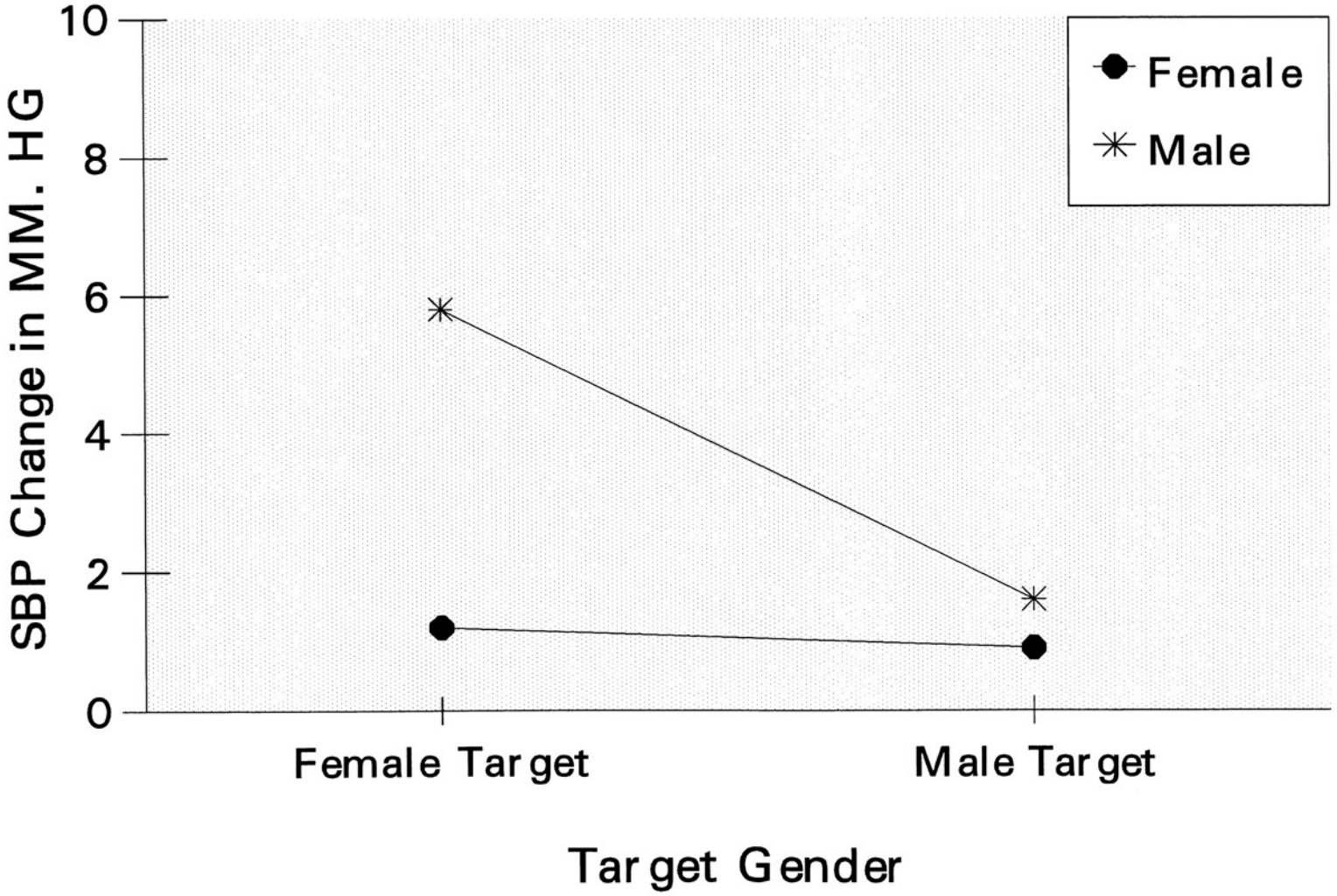


Figure 7

Interaction of Target Gender and Participant Gender on Participants' SBP Change During 10-minute Preparation Period

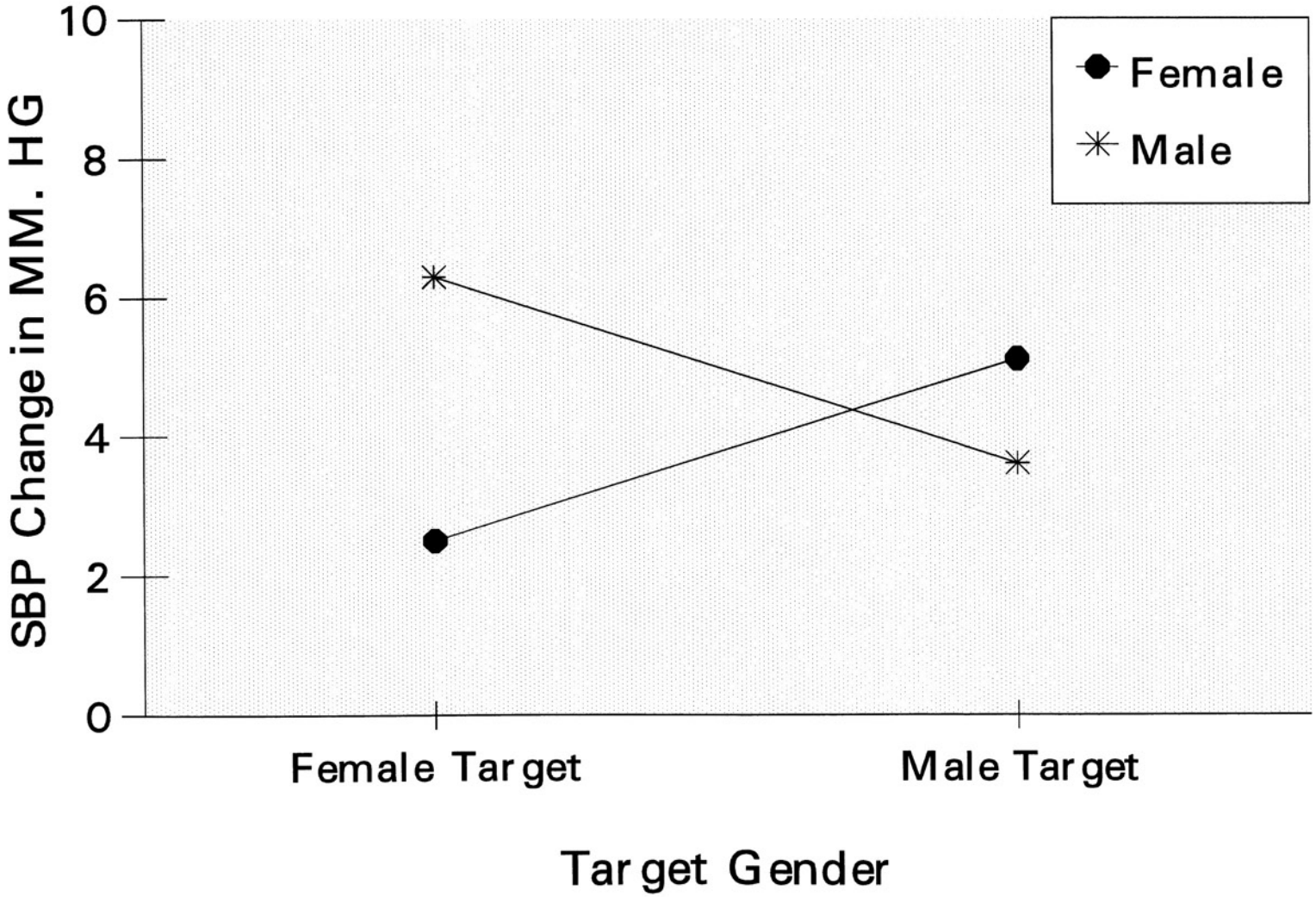


Figure 8

Interaction of Target Gender and Affect on Participants' SBP Change from Baseline over Time

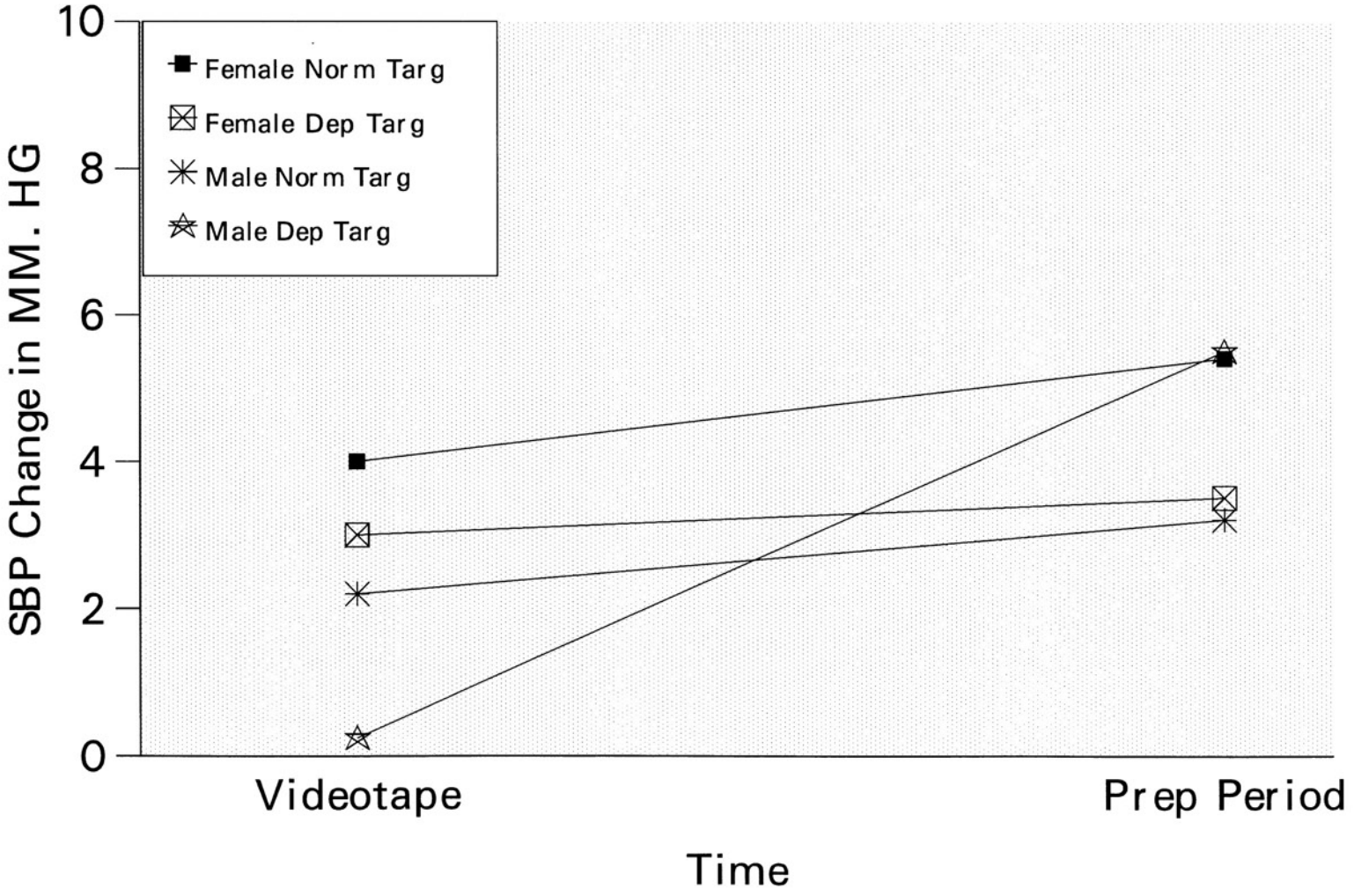
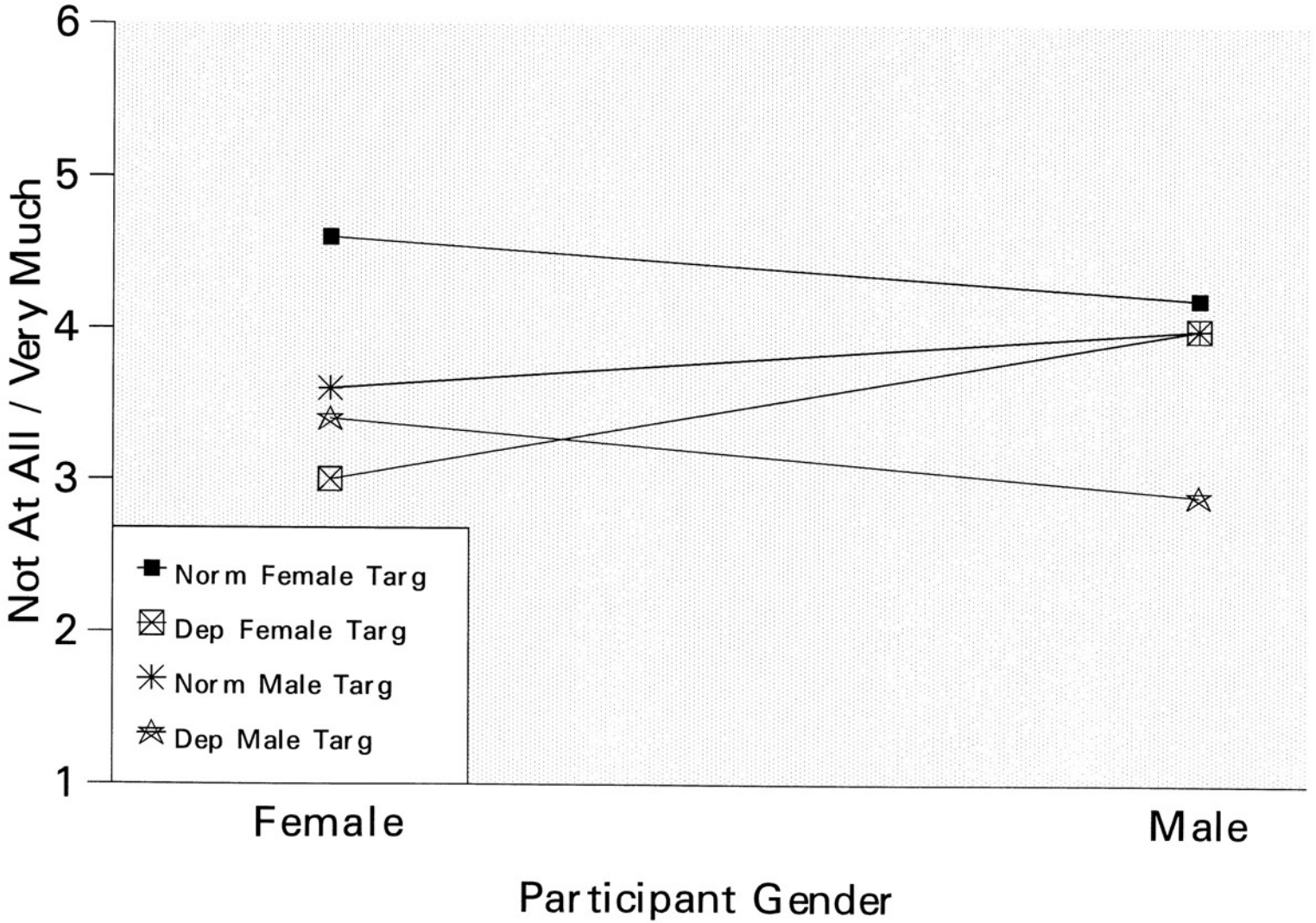


Figure 9

Interaction of Participant Gender and Target Gender and Affect on Ratings of How Much Looking Forward to the Upcoming Interaction



Appendix A

Telephone Screen

Name: _____ Age: ___

Address: _____ Sex: ___
_____ MS: ___
_____

Phone: (home) _____ (work) _____

1. Do you have high blood pressure? Y N

   a. Do you have any problems having your blood pressure taken? Y N

2. Do you smoke? Y N

3. On average, how much caffeine do you have each day? (e.g., coffee, tea, caffeinated soda, chocolate)

   _____

4. On average, how much alcohol do you drink each week?

   _____

5. On average, how much exercise do you get each week?

   _____

6. Are you currently dieting? Y N

   a. Do you use OTC diet pills? Y N

7. In the past three months have you experienced any particularly stressful experiences?

   _____

   a. What has been most stressful to you in that time?

      _____

8. Do you take any prescription medication? Y N

a. Are you currently taking any medications for anxiety or depression? Y N

b. Are you currently in treatment with a psychologist or psychiatrist? Y N

c. Have you ever been in treatment with a psychologist or psychiatrist? Y N

d. Have you ever had a close relative who has experienced depression? (i.e., mother, father, brother, sister, grandparent) Y N

Appendix B

Consent Form

CONSENT FOR RESEARCH PARTICIPATION

- PLEASE READ CAREFULLY -

PROJECT NUMBER: TO72AU-03

STUDY TITLE: Effects of Modality on Impression Formation

Background:

This research study is designed to assess how people form impressions of others. Eighty-eight (44 male, 44 female) participants will be involved in the study. We will be asking about your impressions and feelings regarding a person who will be presented to you during the course of the study. You will be asked to complete a number of questionnaires, watch a short videotape, and participate in a fifteen-minute interaction with one other person. Your blood pressure and heart rate will be monitored periodically. Our specific interest in these processes will be described to you in detail at the end of today's session. There are some aspects of this study you will not be informed of now but will be at the end of the study.

Procedures to be followed:

A monitor that can be set at periodic intervals will be used to obtain heart rate and blood pressure. A cuff attached to the monitor, similar to those used in a doctor's office, will be placed on your arm at the beginning of the session. After relaxing briefly, five consecutive readings will be taken to establish your resting level. During the time you are watching the videotape, readings will be taken fifteen seconds and three minutes into the video and immediately after the video is over. Three additional readings will be taken during a preparation period prior to the interaction. Finally, during the fifteen minute interaction, readings will be taken every three minutes.

The questionnaires you will be completing are designed to provide us with basic information about yourself, your impressions and feelings regarding the person presented to you in the study, and your mood prior to and during the course of the study. In addition, a background questionnaire is included to insure those people participating are demographically comparable.

Before the study begins, the experimenter will describe ways in which you can alleviate discomfort due to the inflation of the blood pressure cuff. If, however, for any other reason you become uncomfortable during the study, please tell the experimenter. We do not expect this to occur. If you decide to participate, you may

withdraw or discontinue participation at any time, for any reason without penalty or loss of benefits to which you would otherwise be entitled. If for any reason, you feel continuing would constitute a hardship, please tell the experimenter and we will end the study. If you have any questions at any point during the study, we expect you to ask us.

The experimenter may terminate the study session without regard to participant's consent. If this should become necessary, the circumstances and reasons for termination will be explained to you at the end of the study session.

Possible risks or side effects:

The Uniformed Services University of the Health Sciences is a U.S. Government facility. Federal regulations require us to inform you of any risks that may be associated with your participation in this study. This study does not entail any physical or mental risks beyond possible minor discomfort when the monitor cuff is inflating during blood pressure and heart rate measurement.

Confidentiality:

Your participation is entirely voluntary and your identity will remain anonymous. Confidentiality will be protected to the best extent provided under law. This consent form and all data collected will be secured in a locked file. Your name, address, and telephone number will not be connected in any way with the information you provide. A number will be assigned to the questionnaires you will be completing to insure your anonymity. You will not be identified by name in any publication which may result from this research.

Benefits to you:

The benefits of this study to you will be indirect in that these data will contribute to the research examining important interpersonal issues. By guaranteeing your anonymity in the manner described above, we will be unable to provide you with any specific information regarding your response to the questionnaires.

Compensation:

The study session will last approximately two hours. You will be paid $20.00 for your participation. Active Duty Personnel cannot be compensated for participation in this study.

Persons to contact:

If you participate and desire additional information about this experiment, either about the rationale for it or its findings, you may contact Ms. Denise Hoffman or Dr. Francie Gabbay in the Department of Medical and Clinical Psychology, (301)295-3270. We want your participation in this research to be an informative and educational experience. We welcome your comments and suggestions, and appreciate your willingness to help us.

YOU ARE MAKING A DECISION WHETHER OR NOT TO PARTICIPATE IN THIS STUDY. YOUR SIGNATURE INDICATES THAT, HAVING READ THE ABOVE INFORMATION, YOU HAVE DECIDED TO PARTICIPATE.

_____ _____

Participant's Signature Participant's Printed Name

_____

Date

I certify that I have received a copy of this consent form.

_____

Participant's Initials

I WAS PRESENT WHILE THIS VOLUNTEER READ THIS CONSENT FORM AND HAD
THE OPPORTUNITY TO ASK QUESTIONS. I HEREBY WITNESS THE VOLUNTEER'S SIGNATURE.

_____ _____

Experimenter's Signature Experimenter's Printed Name

_____

Date

Appendix C

Scripts for Videotape Targets

Normal Target Script

Set will consist of a single chair facing the camera in front of a neutral background.

Experimenter: All right, are you ready to start?

Target: I guess so. I'm not sure how good this is going to be - I mean - I feel a little uncomfortable in front of the camera.

Probably not any more than anyone else though. Oh well, I guess it's got to be done.

Experimenter: Alright, why don't you start by introducing yourself and telling us a little bit about yourself.

Target: Okay, I'm _____. I'm 30 years old and ... I've never done anything like this before - be in a study I mean. I saw the ad and I thought it would be interesting. So here I am. Um, I wrote some things down before so I'm going to be using my notes, that's okay right?

Experimenter: Sure, that's fine if it makes you more comfortable. Why don't you tell us about where you're from?

Target: I'm not originally from around here - I moved here about three years ago. My family's all back in the Mid-West. I moved here for my job. I work in accounting and I got offered a job out here and I thought it would be interesting to live in another part of the country for awhile. The job's fine and I'm not sorry I came or anything, but I really miss my family. Actually, lately I've been feeling kind of bored with my job. There doesn't seem to be as much room for advancement as I thought when I took the job. So, I'm kind of considering my options regarding my career. There's a lot of

possibilities though - lots of interesting things I could do. I'm not sure what I'll decide, I'm not in any hurry to make a decision. I just feel like I need to think about a change, you know? I'm sure I'll work it out. I'm not going to worry about it right now. (Pause, then experimenter prompts)

Experimenter: How do you like living here?

Target: Oh, I like living in this area. There's lots of things going on - lots to do. I really like the climate. The winters are a lot milder then what I'm used to. Of course, the summers are hotter too. That takes some getting used to - at least it did for me. The heat is really draining. Thankfully, there's air conditioning. (Pause taping here)

Experimenter: What do you do with your free time?

Target: Well, since my job has kind of got me down, I live for the weekends. I really enjoy being with my friends. I think it's really important to have good friends. I spend a lot of time with mine, especially since my family is so far away. Actually, I met my best friend through work and we live together. That's been working out pretty good. That's one thing I really wasn't prepared for - how much more expensive things are out here than they are back home. My money sure doesn't go as far as I thought it would. Sharing expenses is the only way to go. I mean, sometimes I wish I could afford my own place. You know, have my own space and everything but most of the time I don't mind having a roommate. It's kind of nice having someone else around. I have my room if I want to be alone. Actually, I do spend a lot of time in my room and I have my stereo and TV in there. I guess I have enough privacy when I need it. (Pause, then target starts again)

Um, things I like to do. Well, I like to read, especially mysteries. That's usually the first section I head for in the bookstores. I also go to the library quite a bit.

I like movies too, although I don't get out to see as many as I would like. Lately I rent them or watch them on cable. Actually, I just broke up with my (girl/boy) friend and we went to the movies together a lot. I haven't started seeing anyone else. I guess I'm still upset about breaking up. We'd been going out for awhile and things were going pretty good and - um I'm not sure what happened. I think he/she just felt like seeing other people. I'm not really mad. I mean it's no one's fault. It just didn't work out. I think I'm starting to get over it. At first I was really upset, because you know, you have a relationship that's going well and you start thinking maybe there's a future here and then it turns out to be wrong. I'm sure it'll take some time, I think that's only natural. I know eventually I'll find someone else. Hopefully someone who there will be a future with, you know? (Pause taping here)

Experimenter: You have about a minute left.

Target: Well, I like music - all kinds of music. I play the guitar a little bit but I'm not very good. I never took lessons or anything. I just kind of fool around with it by myself. I've thought about taking lessons and really getting into it more but somehow I've never gotten around to it.

I like to swim. We just about lived in the water in the summer when I was a kid. Of course now swimming is a form of exercise rather than fun, but I still enjoy it. I wish I could swim more, but I just don't get to the pool as much as I would like. Actually, I wish I could say that I exercise more. You know how it is, sometimes you

really make an effort and you maybe are doing something four or even five days a week and then you start slacking off and before you know it you aren't doing anything at all. This last winter I got talked into playing on the company's volleyball team. I really enjoyed it when we did manage to play. Unfortunately, the schedule really got cut short because of the bad weather and illness but there's always next year. With all the stuff that has been going around, most people have been sick with something. I've been really lucky this year, I've really been feeling good, maybe it's the vitamins I've been taking.

Experimenter: Your time is just about up, is there anything else that you'd like to add?

Target: No, I guess not. That wasn't so bad after all, I mean I managed to fill up the time no problem. Great.

Depressed Target Script

Set will consist of a single chair facing the camera in front of a neutral background.

Experimenter: All right, are you ready to start?

Target: I guess so. I'm not sure how good this is going to be - I mean - I feel a little uncomfortable in front of the camera. I'm really not up to this. Guess it's got to be done. (short pause)

Experimenter: Alright, why don't you start by introducing yourself and telling us a little bit about yourself.

Target: Okay, I'm _____. I'm 30 years old and ... I've never done anything like this before - be in a study I mean. I saw the ad and I thought it would be interesting. So here I am. Um, I wrote some things down before - I can use this, right?

Experimenter: Sure, that's fine if it makes you more comfortable. Why don't you tell us about where you're from?

Target: I'm not originally from around here - I moved here about three years ago. My family's all back in the Mid-West. I moved here for my job. I work in accounting and I got offered a job out here and I thought it would be interesting to live in another part of the country for awhile. The job's fine and I guess I'm not sorry I came or anything, but I really miss my family. Actually, lately I've been feeling kind of bored with my job. There doesn't seem to be as much room for advancement as I thought when I took the job. But, with the job market what it is, I'll probably just stay where I am. Nothing really interests me anyway so what would be the point? I don't really

care. I don't have the energy to worry about my future, so I'll probably just leave things the way they are. (Pause, then experimenter prompts)

Experimenter: How do you like living here?

Target: Oh, living in this area is okay. There seems to be lots of things going on - lots to do if you want to. I like the climate. The winters are sure a lot milder then what I'm used to. Of course, the summers are hotter too. That takes some getting used to - at least it did for me. The heat is really draining. Thankfully, there's air conditioning. (Pause taping here)

Experimenter: What do you do with your free time?

Target: Well, since my job has kind of got me down, I live for the weekends. I spend most of my time alone; it takes too much energy to go out. I don't know, I just don't enjoy people the way I used to. Back home I spent a lot of time with my friends, but lately I'm usually too tired to go out. It just doesn't seem worth the effort you know? I don't feel like going out. If I do, I don't seem to have anything to talk about and I just don't have fun. I'm just better off staying at home. I see people at work everyday. Actually, I met my best friend through work and we live together. That's been working out pretty good. That's one thing I really wasn't prepared for - how much more expensive things are out here than they are back home. My money sure doesn't go as far as I thought it would. Sharing expenses is the only way to go. I mean, sometimes I wish I could afford my own place. You know, have my own space and everything but most of the time I don't mind having a roommate. I have my room if I want to be alone. Actually, I do spend a lot of time in my room and I have my

stereo and TV in there. I guess I have enough privacy when I need it. (Pause, then target starts again)

Um, things I like to do. Well, I like to read, especially mysteries. That's usually the first section I head for in the bookstores. I also go to the library quite a bit. I like movies too, although I don't get out to see many. Lately I rent them or watch them on cable. Actually, I just broke up with my (girl/boy) friend and we went to the movies together a lot. I haven't started seeing anyone else. I guess I'm still upset about breaking up. We'd been going out for awhile and things were going pretty good and - um I'm not sure what happened. I think he/she just felt like seeing other people. I'm not really mad. I mean it's no one's fault. It just didn't work out. I haven't felt like going out much - not with friends or anyone. Being with other people just makes me feel more alone. At first I was really upset, you know you have a relationship that is going well and you start thinking maybe there's a future here and then it turns out to be wrong. I'm not sure I'm ever going to get over it. Sometimes I don't think I'll ever find anyone. (Pause taping here)

Experimenter: You have about a minute left.

Target: Well, I like music -all kinds of music. I play the guitar a little bit but I'm not very good. I never took lessons or anything. I just kind of fool around with it by myself. I've thought about taking lessons and really getting into it more but somehow I've never gotten around to it.

I like to swim. We just about lived in the water in the summer when I was a kid. Of course now I swim for exercise rather than fun, but I still enjoy it. I wish I

could swim more, but I just don't get to the pool as much as I would like. I wish I could say that I exercise more. You know how it is, sometimes you really make an effort and maybe you're doing something four or even five days a week and then you start slacking off and before you know it you aren't doing anything at all. Actually, this last winter I got talked into playing on the company's volleyball team. We didn't manage to play much. The schedule really got cut short because of the bad weather and illness, which was okay with me. With all the stuff that has been going around, most people have been sick with something. Lately, I haven't been feeling too good myself. I don't know what it is, I mean it's been going on too long to be the flu. I just haven't felt much like eating - food just doesn't appeal to me. I haven't been sleeping very well either and I'm tired all the time. Maybe I need to start taking some vitamins or something.

Experimenter: Your time is just about up, is there anything else that you'd like to add?

Target: No, I guess not. Well, that wasn't so bad after all, I mean I managed to fill up the time. Okay, I'm finished...

Appendix D

Questionnaire Measures

SUBJECT # _____

DEMOGRAPHIC QUESTIONNAIRE

1. What is your age? _____ years

2. What is your sex? _____ female _____male

3. Check the racial group to which you belong:

   _____ White, not of Hispanic origin

   _____ Black, not of Hispanic origin

   _____ Hispanic

   _____ Asian or Pacific Islander

   _____ American Indian or Alaskan Native

4. What is your marital status?

   _____ Single _____ Married _____ Widowed _____ Divorced ____

5. What is the highest level of education you have completed?

   Please circle the correct number of years.

   High School: 8 9 10 11 12

   College: 13 14 15 16

   Professional or graduate school: 17 18 19 20

6. Are you currently employed? Yes No

7. What is your total family income?

   _____ 0 - $9,999
   _____ $10,000 - 19,999
   _____ $20,000 - 29,999
   _____ $30,000 - 39,999
   _____ $40,000 - 40,999
   _____ $50,000 - 59,999
   _____ $60,000 - 69,999
   _____ $70,000 - 79,999
   _____ over $80,000

8. If you are currently working outside your home, what is your individual income?

_____ 0 - $9,999	_____ $40,000 - 40,999
_____ $10,000 - 19,999	_____ $50,000 - 59,999
_____ $20,000 - 29,999	_____ $60,000 - 69,999
_____ $30,000 - 39,999	_____ $70,000 - 79,999
	_____ over $80,000

9. Do you have children? Yes No

If yes, how many? _____

Family and Personal History

1. Has anyone in your family (mother, father, sisters, brothers, grandparents, aunts, uncles, etc.) ever been treated for any psychiatric disorder (e.g., depression, anxiety, mania)?

Yes No

If yes, please indicate who and describe condition.

_____

_____

2. Has anyone in your family (see above) ever been hospitalized for a psychiatric problem?

Yes No

If yes, please indicate who and when they were hospitalized.

3. Have you had any alcohol or caffeine today? Yes No

NAME _____ DATE _____

SEX: Male (M) Female (F)

IDENTIFICATION

Below is a list of words that describe feelings people have. Please read each one carefully. Then fill in ONE circle under the answer to the right which best describes HOW YOU HAVE BEEN FEELING DURING THE PAST WEEK INCLUDING TODAY.

The numbers refer to these phrases.

0 = Not at all
1 = A little
2 = Moderately
3 = Quite a bit
4 = Extremely

Col (C) O.P. (O)

	NOT AT ALL	A LITTLE	MODERATELY	QUITE A BIT	EXTREMELY
1. Friendly	0	1	2	3	4
2. Tense	0	1	2	3	4
3. Angry	0	1	2	3	4
4. Worn out	0	1	2	3	4
5. Unhappy	0	1	2	3	4
6. Clear-headed	0	1	2	3	4
7. Lively	0	1	2	3	4
8. Confused	0	1	2	3	4
9. Sorry for things done	0	1	2	3	4
10. Shaky	0	1	2	3	4
11. Listless	0	1	2	3	4
12. Peeved	0	1	2	3	4
13. Considerate	0	1	2	3	4
14. Sad	0	1	2	3	4
15. Active	0	1	2	3	4
16. On edge	0	1	2	3	4
17. Grouchy	0	1	2	3	4
18. Blue	0	1	2	3	4
19. Energetic	0	1	2	3	4
20. Panicky	0	1	2	3	4
21. Hopeless	0	1	2	3	4
22. Relaxed	0	1	2	3	4
23. Unworthy	0	1	2	3	4
24. Spiteful	0	1	2	3	4
25. Sympathetic	0	1	2	3	4
26. Uneasy	0	1	2	3	4
27. Restless	0	1	2	3	4
28. Unable to concentrate	0	1	2	3	4
29. Fatigued	0	1	2	3	4
30. Helpful	0	1	2	3	4
31. Annoyed	0	1	2	3	4
32. Discouraged	0	1	2	3	4
33. Resentful	0	1	2	3	4
34. Nervous	0	1	2	3	4
35. Lonely	0	1	2	3	4
36. Miserable	0	1	2	3	4
37. Muddled	0	1	2	3	4
38. Cheerful	0	1	2	3	4
39. Bitter	0	1	2	3	4
40. Exhausted	0	1	2	3	4
41. Anxious	0	1	2	3	4
42. Ready to fight	0	1	2	3	4
43. Good natured	0	1	2	3	4
44. Gloomy	0	1	2	3	4
45. Desperate	0	1	2	3	
46. Sluggish	0	1	2	3	
47. Rebellious	0	1	2	3	
48. Helpless	0	1	2	3	
49. Weary	0	1	2	3	
50. Bewildered	0	1	2	3	
51. Alert	0	1	2	3	
52. Deceived	0	1	2	3	
53. Furious	0	1	2	3	
54. Efficient	0	1	2	3	
55. Trusting	0	1	2	3	
56. Full of pep	0	1	2	3	
57. Bad-tempered	0	1	2	3	
58. Worthless	0	1	2	3	
59. Forgetful	0	1	2	3	
60. Carefree	0	1	2	3	
61. Terrified	0	1	2	3	
62. Guilty	0	1	2	3	
63. Vigorous	0	1	2	3	
64. Uncertain about things	0	1	2	3	
65. Bushed	0	1	2	3	

MAKE SURE YOU HAVE ANSWERED EVERY ITEM.

EdITS POM 021

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Instructions: For each set of items listed below, please fill in the circle next to the statement that describes you best at the present time.

1. ○ I do not feel sad.
   ○ I feel blue or sad.
   ○ I am so blue or sad all the time I can't snap out of it.
   ○ I am so sad or unhappy that it is very painful.
   ○ I am so sad or unhappy that I can't stand it.

2. ○ I am not particularly pessimistic about the future.
   ○ I feel discouraged about the future.
   ○ I feel I have nothing to look forward to.
   ○ I feel that I won't ever get over my troubles.
   ○ I feel that the future is hopeless and that things cannot improve.

3. ○ I do not feel like a failure.
   ○ I feel that I have failed more than the average person.
   ○ I feel that I have accomplished very little that is worthwhile or that means anything.
   ○ As I look back on my life all I can see are a lot of failures.
   ○ I feel I am a complete failure as a person (parent, husband, wife).

4. ○ I am not particularly dissatisfied.
   ○ I feel bored most of the time.
   ○ I don't enjoy things the way I used to.
   ○ I don't get satisfaction out of anything anymore.
   ○ I am dissatisfied with everything.

5. ○ I don't feel particularly guilty.
   ○ I feel bad or unworthy a good part of the time.
   ○ I feel quite guilty.
   ○ I feel bad or unworthy practically all the time now.
   ○ I feel as though I am very bad or worthless.

6. ○ I don't feel I am being punished.
   ○ I have a feeling that something bad may happen to me.
   ○ I feel I am being punished or will be punished.
   ○ I feel I deserve to be punished.
   ○ I want to be punished.

7. ○ I don't feel disappointed in myself.
   ○ I am disappointed in myself.
   ○ I don't like myself.
   ○ I am disgusted with myself.
   ○ I hate myself.

8. ○ I don't feel that I am any worse than anybody else.
   ○ I am very critical of myself for my weaknesses or mistakes.
   ○ I blame myself for everything that goes wrong.
   ○ I feel I have many bad faults.

9. ○ I don't have any thoughts of harming myself.
   ○ I have thoughts of harming myself but I would not carry them out.
   ○ I feel I would be better off dead.
   ○ I have definite plans about committing suicide.
   ○ I feel my family would be better off if I were dead.
   ○ I would kill myself if I could.

10. ○ I don't cry any more than usual.
    ○ I cry more now than I used to.
    ○ I cry all of the time now, I can't stop it.
    ○ I used to be able to cry, but now I can't cry at all even though I want to.

11. ○ I am no more irritated now than I ever am.
    ○ I get annoyed or irritated more easily now than I used to.
    ○ I feel irritated all the time.
    ○ I don't get irritated at all at the things that used to irritate me.

12. ○ I have not lost interest in other people.
    ○ I am less interested in other people now than I used to be.
    ○ I have lost most of my interest in other people and have little feeling for them.
    ○ I have lost all my interest in other people and don't care about them at all.

13. ○ I make decisions about as well as ever.
    ○ I am less sure of myself now and try to put off making decisions.
    ○ I can't make decisions anymore without help.
    ○ I can't make decisions at all anymore.

14. ○ I don't feel I look any worse than I used to.
    ○ I am worried that I am looking old or unattractive.
    ○ I feel that there are permanent changes in my appearance and they make me look unattractive.
    ○ I feel that I am ugly or repulsive looking.

15. ○ I can work about as well as before.
    ○ It takes extra effort to get started at doing something.
    ○ I don't work as well as I used to.
    ○ I have to push myself very hard to do anything.
    ○ I can't work at all.

16. ○ I can sleep as well as usual.
    ○ I wake up more tired in the morning than I used to.
    ○ I wake up 1-2 hours earlier than usual and find it hard to go back to sleep.
    ○ I wake up early every day and can't get more than 5 hours sleep.

17. ○ I don't get any more tired than usual.
    ○ I get tired more easily than I used to.
    ○ I get tired from doing anything.
    ○ I get too tired to do anything.

18. ○ My appetite is no worse than usual.
    ○ My appetite is worse than it used to be.
    ○ My appetite is much worse now.
    ○ I have no appetite at all any more.

19. ○ I have not lost much weight, if any lately.
    ○ I have lost more than 5 pounds.
    ○ I have lost more than 10 pounds.
    ○ I have lost more than 15 pounds.

20. ○ I am no more concerned about my health than usual
    ○ I am concerned about aches and pains or upset stomach or constipation or other unpleasant feelings in my body.
    ○ I am so concerned with how I feel or what I feel tha it's hard to think of much else.
    ○ I am completely absorbed in what I feel.

21. ○ I have not noticed any recent change in my interest in sex.
    ○ I am less interested in sex than I used to be.
    ○ I am much less interested in sex now.
    ○ I have lost interest in sex completely.

SUBJECT # _____

PERCEPTIONS QUESTIONNAIRE

Please respond to the following questions regarding the person in the videotape you watched.

How do you think this person would like you to see him/her?

1 unpleasant	2	3	4	5	6 pleasant
1 negative	2	3	4	5 positive	6
1 bad	2	3	4	5 good	6
1 uncomfortable	2	3	4	5	6 comfortable
1 sad	2	3	4	5 happy	6
1 weak	2	3	4	5	6 strong
1 cold	2	3	4	5	6 warm
1 low	2	3	4	5 high	6
1 passive	2	3	4	5 active	6

SUBJECT # _____

What do you think this person would be like if you really got to know him/her?

1 unpleasant	2	3	4	5	6 pleasant
1 negative	2	3	4	5	6 positive
1 bad	2	3	4	5	6 good
1 uncomfortable	2	3	4	5	6 comfortable
1 sad	2	3	4	5	6 happy
1 weak	2	3	4	5	6 strong
1 cold	2	3	4	5	6 warm
1 low	2	3	4	5	6 high
1 passive	2	3	4	5	6 active

IMPRESSION QUESTIONNAIRE

Please respond to the following questions regarding the person who appeared in the videotape you have just watched.

1. Would you like to meet this person?

1	2	3	4	5	6
definitely not interested					strongly interested

2. Would you like to sit next to this person on a 3-hour bus trip?

1	2	3	4	5	6
definitely not interested					strongly interested

3. Would you be willing to work on a job with this person?

1	2	3	4	5	6
definitely not interested					strongly interested

4. Would you be willing to have this person eat lunch with you often?

1	2	3	4	5	6
definitely not interested					strongly interested

5. Would you invite this person to your home?

1	2	3	4	5	6
definitely not interested					strongly interested

6. Would you be willing to share an apartment with someone like this?

1	2	3	4	5	6
definitely not interested					strongly interested

7. How likely would it be that this person could become a close friend of yours?

1	2	3	4	5	6
not at all likely					very likely

8. Would you be willing to have a person like this supervise your work?

1	2	3	4	5	6
definitely not interested					strongly interested

9. Would you ask this person for advice?

1	2	3	4	5	6
definitely not interested					strongly interested

10. How physically attractive do you think this person is?

1	2	3	4	5	6
not at all attractive					very attractive

11. How socially poised do you think this person is?

1	2	3	4	5	6
not at all poised					very poised

12. How likely would it be that you would date a person with this kind of personality?

1	2	3	4	5	6
not at all likely					very likely

13. How likely would it be that you would marry someone with a personality like this?

1	2	3	4	5	6
not at all likely					very likely

Subject # _____

INTERACTION QUESTIONNAIRE

How much are you looking forward to the interaction?

1	2	3	4	5	6
not at all					very much

Do you expect the interaction to be pleasant or unpleasant?

1	2	3	4	5	6
unpleasant					very pleasant

If you were given the option of interacting with the person in the video for the full 15 minutes, or of splitting the 15 minutes between the person you saw in the video and another person who is unknown to you, how much time would you spend with each of them?

person in the video _____minutes

unknown person _____minutes

Why did you make the above time allotment?