

PERCEPTION OF SOCIAL INTERACTIONS IN
DEPRESSED PSYCHIATRIC PATIENTS

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TABLE OF CONTENTS

Chapter	Page
I. INTRODUCTION	1
II. REVIEW OF THE LITERATURE	5
Lewinsohn's Behavioral Theory of Depression	5
Seligman's Theory of Learned Helplessness as a Model of Depression	10
Beck's Cognitive Theory of Depression	18
III. STATEMENT OF THE PROBLEM	26
IV. METHOD	29
Subjects	29
Materials	31
Beck Depression Inventory (BDI)	31
The Research Diagnostic Criteria and the Lifetime Version of the Scheulde for Affective Disorders and Schizophrenia	33
Dysfunctional Attitude Scale (DAS)	34
Socio-Demographic Questionnaire	35
Videotapes	36
Rating Scales and Forms	39
Procedure	41
• Phase 1--Selection of Subjects	41
Phase 2	43
Statistical Analysis	45
V. RESULTS	47
Analysis of Responses to the Socio-Demographic Questionnaire	47
Rating Data Analysis	50
Analysis of Scores on the Dysfunctional Attitude Scale (DAS)	65
VI. DISCUSSION AND CONCLUSIONS	66
A SELECTED BIBLIOGRAPHY	77
APPENDIXES	83

Chapter	Page
APPENDIX A - SOCIO-DEMOGRAPHIC QUESTIONNAIRE	84
APPENDIX B - SCRIPT FOR VIDEOTAPES	86
APPENDIX C - RATING FORM--SELF CONDITION	93
APPENDIX D - RATING FORM--OTHER CONDITION	95
APPENDIX E - INSTRUCTIONS FOR RATING INTERACTIONS-- <u>SELF</u> CONDITION	97
APPENDIX F - INSTRUCTIONS FOR RATING INTERACTIONS-- <u>OTHER</u> CONDITION	100
APPENDIX G - NARRATIVE FOR THE RECRUITMENT OF SUBJECTS FOR THE STUDY	103
APPENDIX H - CONSENT FORM	105
APPENDIX I - INSTRUCTIONS-- <u>SELF</u> CONDITION	107
APPENDIX J - INSTRUCTIONS-- <u>OTHER</u> CONDITION	109
APPENDIX K - QUESTIONS FOR POST-EXPERIMENTAL INTERVIEW	111
APPENDIX L - ANALYSIS OF VARIANCE OR COVARIANCE OF THE EFFECTS OF DEPRESSION, CONDITION AND CATEGORY ON THE RATING OF SOCIAL INTERACTIONS FOR THE ELEVEN RATING VARIABLES	113
APPENDIX M - MEAN RATINGS OF POSITIVE, NEUTRAL AND NEGATIVE SOCIAL INTERACTIONS IN THE SELF AND OTHER CONDITIONS FOR DEPRESSED PATIENTS, REMITTED DEPRESSIVES, AND NON- PSYCHIATRIC CONTROLS ON THE ELEVEN RATING VARIABLES	125
APPENDIX N - SIMPLE MAIN EFFECTS AND POST HOC COMPARISONS FOR THE GROUP X CATEGORY INTERACTIONS FOR RATINGS ON THE POSITIVE/NEGATIVE, DOMINANT/ SUBMISSIVE AND TRUSTFUL/DISTRUSTFUL SCALES	129
APPENDIX O - ANALYSIS OF RESPONSES TO THE SOCIO-DEMOGRAPHIC QUESTIONNAIRE	135
APPENDIX P - ANALYSIS OF VARIANCE AND POST HOC COMPARISONS OF SCORES ON THE DYSFUNCTIONAL ATTITUDE SCALE FOR DEPRESSED PATIENTS, REMITTED DEPRESSIVES, AND CONTROLS IN THE SELF AND OTHER CONDITIONS	142

LIST OF TABLES

Table	Page
I. Order of Presentation of Scenes for Both Self and Other Conditions	38
II. Frequency and Mean Data for Responses to the Socio-Demographic Questionnaire	48
III. Pearson Product-Moment Correlation Coefficients for Rating Data and Education	52
IV. Mean Ratings for the Group x Category Interactions	54
V. Post Hoc Comparisons for Group Effects for Mean Ratings on the Active/Passive, Friendly/Hostile, Accepting/Rejecting, and Supportive/Unsupportive Scales	58
VI. Post Hoc Comparisons for Category Main Effects	60
VII. Planned Comparisons Between Mean Ratings of the Depressed Group and the Controls in the Self and Other Conditions for the Positive Category on the Eleven Rating Scales	61
VIII. Planned Comparisons Between Mean Ratings of the Depressed Group and the Controls in the Self and Other Conditions for the Neutral Category on the Eleven Rating Scales	62
IX. Planned Comparisons Between Mean Ratings of the Depressed Group and the Controls in the Self and Other Conditions for the Negative Category on the Eleven Rating Scales	63
X. ANOVA for the Ratings on the Positive/Negative Scale	114
XI. ANACOVA for Ratings on the Good/Bad Scale	115
XII. ANOVA for Ratings on the Strong/Weak Scale	116
XIII. ANOVA for Ratings on the Active/Passive Scale	117
XIV. ANOVA for Ratings on the Friendly/Hostile Scale	118

Table	Page
XV. ANOVA for Ratings on the Dominant/Submissive Scale	119
XVI. ANOVA for Ratings on the Trustful/Distrustful Scale	120
XVII. ANOVA for Ratings on the Accepting/Rejecting Scale	121
XVIII. ANOVA for Ratings on the Supportive/Unsupportive Scale	122
XIX. ANOVA for Ratings on the Kind/Unkind Scale	123
XX. ANOVA for Ratings on the Warm/Cold Scale	124
XXI. Mean Ratings of Positive Social Interactions in the Self and Other Conditions for Depressed Patients, Remitted Depressives, and Controls on the Eleven Rating Scales	126
XXII. Mean Ratings of Neutral Social Interactions in the Self and Other Conditions for Depressed Patients, Remitted Depressives, and Controls on the Eleven Rating Scales	127
XXIII. Mean Ratings of Negative Social Interactions in the Self and Other Conditions for Depressed Patients, Remitted Depressives, and Controls on the Eleven Rating Scales	128
XXIV. Simple Main Effects and Post Hoc Comparisons for the Group x Category Interaction for Ratings on the Positive/Negative Scale	130
XXV. Simple Main Effects and Post Hoc Comparisons for the Group x Category Interaction for Ratings on the Dominant/Submissive Scale	131
XXVI. Simple Main Effects and Post Hoc Comparisons for the Group x Category Interaction for Ratings on the Trustful/Distrustful Scale	133
XXVII. Analysis of Variance of Ages for Depressed Patients, Remitted Depressives, and Controls	136
XXVIII. Depressed Patients', Remitted Depressives', and Controls' Marital Status	136
XXIX. Analysis of Variance and Post Hoc Comparisons of Number of Children for Depressed Patients, Remitted Depressives, and Controls	137
XXX. Depressed Patients', Remitted Depressives', and Controls' Religious Preference	138

Table	Page
XXXI. Analysis of Variance and Post Hoc Comparisons of Years of Education for Depressed Patients, Remitted Depressives, and Controls	139
XXXII. Depressed Patients', Remitted Depressives', and Controls' Occupation	140
XXXIII. Depressed Patients', Remitted Depressives', and Controls' Husbands' Occupation	140
XXXIV. Depressed Patients', Remitted Depressives', and Controls' Fathers' Occupation	141
XXXV. Depressed Patients', Remitted Depressives', and Controls' Mothers' Occupation	141
XXXVI. Analysis of Variance and Post Hoc Comparisons of Scores on the Dysfunctional Attitude Scale for Depressed Patients, Remitted Depressives, and Controls in the Self and Other Conditions	143

CHAPTER I

INTRODUCTION

Depression is one of the leading mental health problems in the United States today. It is estimated that 10 percent of the general population will have a depressive episode at some time during their lives, and that 80 percent of all suicides can be traced to a precipitating depressive episode (Friedman & Katz, 1974).

Considering the prevalence and seriousness of depression in our country, Rush and Beck (1978) point out that it is paradoxical that there is no common consensus regarding what constitutes depression. They also point out that the diagnosis of depression does not describe a homogeneous population of patients regarding etiology, symptomatology, and responsiveness to therapeutic treatments. Further, this situation interferes with decisions concerning choice of treatment for a particular patient. The Committee on Nomenclature and Statistics of the American Psychiatric Association's (1968) Diagnostic and Statistical Manual of Mental Disorders, Second Edition (DSM-II), classifies depressive disorders into three categories: the major affective disorders, psychotic depressive reaction, and depressive neurosis. Under the major affective disorders, four types are listed: involuntional melancholia, and the manic, depressed and circular types of manic depressive illness. These diagnoses are based not on any consistent type of classification, but rather on a variety of factors including the presence or absence of a

precipitating life event, the presence or absence of a loss of contact with reality, and severity, duration, and number of depressive episodes.

The inadequacy of the nosological categories presented by the DMS-II can be assessed by the continued attempts of researchers and clinicians to arrive at more satisfactory classifications of depression. Among the dimensions along which depression has been classified are (1) endogenous vs. reactive depression, (2) neurotic vs. psychotic depression, (3) primary vs. secondary depression, (4) unipolar vs. bipolar depression, and (5) Klein's (1973, 1974) reactive depression vs. neurotic depression vs. endogenomorphic depression (cited in Rush & Beck, 1978).

Despite the differences among researchers and clinicians as to an appropriate classification system of depression, some consensus data does exist as to the general symptoms. These symptoms tend to be manifested emotionally, behaviorally, cognitively, somatically, and motivationally, and not all symptoms are manifested in every depression (Beck, 1967). For example, depressed persons are usually characterized by feelings of sadness, hopelessness, guilt, and anger (emotional). They may display motor retardation or agitation and may cry easily (behavioral). Cognitively, they may espouse beliefs of worthlessness and helplessness, hold pessimistic views of the future, evidence suicidal ideation, and may tend to blame themselves. Depressed patients may also experience hallucinations and/or delusions. The depressed patient may suffer from a sleep disorder, disturbance of appetite, constipation, and fatigue (somatic). Motivationally, the depressed person may lose interest in his or her usual social and occupational activities and show a decreased interest in sex. Depression is usually

diagnosed on the basis of a pattern, or number, of depressive symptoms displayed. For example, Feighner, Robins, Guze, Woodruff, Winokar, and Munoz (1972) have developed eight criteria for depression. If the patient is positive on five out of eight of the criteria, he or she receives a definite diagnosis of the depressive syndrome. Four out of eight of the criteria are required for a probable diagnosis.

Early attempts to understand depression and subsequently to treat it were psychoanalytic in nature. These theories depicted depression as primarily an affective disorder which produces the observed cognitive and behavioral changes in the depressed person. Some explanations for the development of depression by the psychoanalytic theorists were the occurrence of a traumatic experience in the oral stage of development, a traumatic experience (real or imagined) later in life, hostility turned inward, and/or guilt (Abraham, 1911; Freud, 1917). Experimentally, it was (and is) difficult to operationalize the theories' concepts and generated hypotheses for systematic study due to their complexity and remoteness from observed clinical phenomena.

In the last 10 to 15 years, there has been a rise in behavioral and cognitive models for depression. These theories, in contrast to the psychoanalytic ones, view depression as a cognitive or behavioral disorder which produces the affective changes. These theories also lend themselves more readily to experimentation and verification than do the psychoanalytic ones.

Of the contemporary cognitive and behavioral theories, three have shown particular heuristic value (Blaney, 1977). These theories are Beck's cognitive theory, Seligman's theory of "learned helplessness", and Lewinsohn's behavioral theory based on the assumption of low-level

response-contingent reinforcement. The theories have also proven valuable in that each theory has developed a treatment for depression based on its specific assumptions. Although much research has been generated from these theories, there continues to be a need for examination of the theories, not only to test further hypotheses generated from them, but also to provide validity for the developing therapies.

Due to the dominance in the recent research literature of studies examining these theories, this study's review of the literature will focus mainly on the above theories. In addition, the increasing emphasis on cognitive variables in the behavioral theories will be reviewed.

CHAPTER II

REVIEW OF THE LITERATURE

Lewinsohn's Behavioral Theory of Depression

Lewinsohn's (1974) theory of depression, like other behavioral theories (Ferster, 1966; Lazarus, 1968), is based on the belief that depression is a function of the rate of reinforcement. Central to Lewinsohn's theory, however, is the assumption of a low rate of response-contingent positive reinforcement, rather than the rate of reinforcement per se. Lewinsohn (1974) outlines the basic assumptions for his theory in the following quote:

We make the following three assumptions: (1) A low rate of response contingent positive reinforcement (reconposre) acts as an eliciting (unconditioned) stimulus for some depressive behaviors, such as feelings of dysphoria, fatigue, and other somatic symptoms. (2) A low rate of reconposre constitutes a sufficient explanation for other parts of the depressive syndrome such as the low rate of behavior. For the latter the depressed person is considered to be on a prolonged extinction schedule. (3) The total amount of reconposre received by an individual is presumed to be a function of three sets of variables: (a) The number of events (including activities) that are potentially reinforcing (Pot Re) for the individual. Pot Re is assumed to be a variable subject to individual differences, influenced by biological (e.g. sex and age) and experimental variables. (b) The number of potentially reinforcing events that can be provided by the environment, i.e. the availability of reinforcement in the environment (Avai Re). (c) The instrumental behavior of the individual, i.e. the extent to which he possesses the skills and emits those behaviors that will elicit reinforcement for him from his environment (p. 158).

Often positive reinforcement has been defined by Lewinsohn and his colleagues as number and frequency of pleasant events (activities).

(MacPhillamy and Lewinsohn [1971] developed the Pleasant Events Schedule, a 320-item rating scale which measures "pleasantness" and frequency of an event, as a means of operationalizing reinforcement.) Lewinsohn and Libet (1972) demonstrated a moderate positive correlation between mood and number of pleasant activities engaged in by depressed subjects, psychiatric controls, and normal controls. (Similar results were obtained by Lewinsohn and Graf [1973].) The researchers had subjects rate their mood and the number of pleasant activities engaged in over a 30 day period. For each subject, a correlation between mood and number of activities was computed. Although for the groups taken as a whole a positive correlation existed over time between mood and activities, 10 of the 30 subjects did not show this correlation. From these data Lewinsohn suggested the hypothesis that individual differences may influence the relationship between mood and activity.

Lewinsohn and Libet (1972) also found that in depressed subjects, the number of pleasant activities correlated negatively with mood (i.e., the higher the number of pleasant activities engaged in the lower the depressive mood and vice versa). Further, a correlation was computed across all subjects (depressed, psychiatric controls, and normal controls) between depression level as assessed by the MMPI-D scale and the number of activities engaged in at the same given time. This correlation was negative in direction and statistically significant, revealing that the higher the MMPI-D scale, the lower the number of pleasant activities in which the subject engaged. Although the two experiments by Lewinsohn and Libet (1972) and Lewinsohn and Graf (1973) demonstrated a correlational relationship between mood and activity, no evidence was

provided for a causal relationship. Contradictory results have been obtained concerning this issue.

Wener and Rehm (1975) attempted to provide experimental support for the hypothesis that a low rate of response-contingent reinforcement produces depressive behavior. Subjects were given bogus 80 percent (high) or 20 percent (low) positive reinforcement contingent upon their performance on a word association task, a measure of alleged social intelligence. The lower rate of reinforcement resulted in more depression as measured by a self-report instrument (Multiple Affect Adjective Check List), self-confidence, and response latencies. It is important to note, however, that the increase in depression due to the low rate of reinforcement was significant only after an internal analysis revealed and discarded data for subjects who tended to underestimate the rate of positive reinforcement. This finding, as well as the author's need to discard data on subjects who misperceived the rate of depressed mood and rate of reinforcement, are supportive of the contention that the depressed person's perception of reinforcement must be taken into account in order to predict his or her response to that reinforcement.

In one of two experiments, Hammen and Glass (1975) also attempted to provide support for a causal link between rate of response-contingent positive reinforcement and depression. They set out to prove that getting depressed persons to increase the number of pleasant activities in which they engaged would decrease their level of depression. A list of pleasant activities for each subject was developed by using the Pleasant Events Schedule (MacPhillamy & Lewinsohn, 1971). Mild to moderately depressed college students were asked to increase the pleasant activities in which they engaged each day for a two-week period. In

contradiction to Lewinsohn's (1974) theory, participation in an increased amount of pleasant activities did not result in an alleviation of depression for the depressed subjects.

In a second study (Experiment 2), Hammen and Glass (1975) attempted to replicate the above results. Further, they attempted to investigate the hypothesis that the perception of reinforcing events may be the critical factor in determining whether or not depression was alleviated. In other words, they suggested that even though the depressed person increased his or her participation in pleasant events, depression may not be alleviated because at the time the activities are perceived less positively. This viewpoint, in contrast to Lewinsohn, is supportive of Beck's (1967, 1974) cognitive theory.

In the above study (Experiment 2), Hammen and Glass (1975) replicated the findings of the first study, i.e., increased participation in pleasant activities does not necessarily lead to a reduction of depression. In fact, depressed persons who increased their activities reported an increase in depression on three out of four measures. In addition, these authors found that, as predicted, depressed persons, in contrast to other subjects who also increased positive activities, rated the activities less positively. In concluding their study, Hammen and Glass argue for the importance of mediating variables in explaining the relationship between reinforcement and depression.

Much of the research testing hypotheses derived from Lewinsohn's (1974) theory has focused on the lack of social skill of depressed persons in contrast to nondepressed individuals (Lewinsohn, Winstein & Shaw, 1968; Rosenberry, Weiss & Lewinsohn, 1969; Shaffer & Lewinsohn, 1971; Libet & Lewinsohn, 1973). In regard to Lewinsohn's theory, social skill

is one of the behaviors necessary to elicit positive reinforcement from one's environment. A person lacking in social skill would be subjected to a low-rate of response-contingent reinforcement, a condition which Lewinsohn predicts will result in depression. Libet and Lewinsohn (1973) define social skill as "the complex ability both to emit behaviors that are positively reinforced and not to emit behaviors that are punished by others" (p. 304).

Support for the above hypothesis concerning lack of social skill in depressed persons is given below. These studies used operationally defined measures of social skill such as rate of behavior emitted, interpersonal range, etc., as outlined by Lewinsohn (1974). Libet and Lewinsohn (1973) and Shaffer and Lewinsohn (1971) found that in small experimental and home situations, respectively, depressed persons emitted fewer interpersonal (verbal) behaviors than nondepressed persons. Libet and Lewinsohn (1973) found that depressed male subjects in contrast to nondepressed male subjects demonstrated a restricted interpersonal range, that is, they interacted with fewer people in the group. This finding, however, was not supported for females. These researchers further found that depressed persons emit fewer positive reactions and take longer to respond to others (action latency) than do nondepressed persons. Rosenberry et al. (1969) found that the timing of the depressed persons social responses differed from nondepressed subjects, that is, their responses were less predictable and homogeneous. Again, Lewinsohn uses these findings as support for his hypothesis that a person's inability to emit and elicit positively rewarding responses from others (social skill) results in a low-rate of response-contingent positive reinforcement for that

individual. Lewinsohn further posits that this low-rate of response-contingent reinforcement is an antecedent condition for depression. Again, the major criticism of the above studies is their failure to demonstrate a causal relationship between low-rates of response-contingent reinforcement and depression.

From the above findings, one may again speculate about the presence and importance of mediating cognitive variables. Perhaps depressed persons emit fewer behaviors in a group because they perceive themselves to be inadequate (Beck, 1967, 1974) and consequently able to interact only marginally in a group. They may also interpret these (interpersonal) events more negatively, as Hammen and Glass (1975) found, therefore inhibiting their responses (number of behaviors and action latency). In response to research findings which suggest the role of cognitive variables in depression, Lewinsohn and his colleagues (Munoz & Lewinsohn, 1977) are expanding their work to include the investigation of these variables.

Seligman's Theory of Learned Helplessness as a Model of Depression

Of the three theories reviewed in this chapter, Seligman's (1974, 1975) theory of learned helplessness as a model for depression has been the most heuristic and controversial. (The February 1978 Journal of Abnormal Psychology was devoted entirely to an examination of this theory.) In an attempt to meet some of the criticisms of the original theory and to account for some of its inadequacies, Abramson, Seligman, and Teasdale (1978) have recently reformulated this theory. The reformulation as well as the original theory will be discussed. The

similarities in the Abramson-Seligman-Teasdale reformulation and Beck's (1967, 1974) cognitive theory will also be considered.

Seligman's (1974, 1975) original theory of depression was based upon analogue laboratory experiments with animals in which a state of "learned helplessness" was induced and deficits in behavior were assessed. Overmier and Seligman (1967) and Seligman and Maier (1967) administered unescapable shocks to dogs prior to escape-avoidance training. When these dogs were later placed back into the experimental situation and given the opportunity to escape, they passively accepted the shock rather than initiate behaviors which would help them jump the barrier and escape as was typical of experimentally naive dogs. If one of these dogs did happen to jump the barrier in one of the early trials, it later reverted back to its passive acceptance. In other words, it appeared difficult for the dogs to make the "connection" between the behavior and shock termination. These researchers also found that this observed phenomenon dissipated in time. Seligman termed this phenomenon "learned helplessness." Many studies have replicated this helplessness phenomenon in escape-avoidance studies with other animals, including cats (Seward & Humphrey, 1967), fish (Behrend & Bitterman, 1963), rats (Mower, 1940; Weiss, Krickhaus & Conte, 1968), and monkeys (Harlow, Harlow & Suomi, 1971). Learned helplessness has also been demonstrated in humans (Hiroto, 1974; Hiroto & Seligman, 1975). Other researchers have found that learned helplessness was accompanied in rats by anorexia, weight loss, and whole brain norepinephrine depletion (Weiss, 1968; Lindner, 1968; Weiss, Stone & Harell, 1970).

Seligman (1974, 1975) later drew parallels between the phenomenon of learned helplessness and naturally occurring depression in humans

and developed it as a model of depression, primarily for reactive depression. Seligman noted that depressed persons, like the dogs faced with uncontrollable trauma, were passive; evidenced motor retardation; held negative expectations, that is believed their responses were doomed to failure; and displayed feelings of hopelessness, helplessness, and powerlessness. Depressed persons also evidenced weight loss, loss of libido, and norepinephrine depletion, and their depression dissipated in time. In addition, depression, particularly reactive depression, was believed to be caused by traumatic experiences such as loss of a loved one, rejection by a loved one, loss of a job, etc. In developing learned helplessness as a model for depression, Seligman (1974, 1975) and Miller and Seligman (1973, 1975) theorized that induced helplessness in animals and depression in humans were caused not by the trauma itself, but by the perception that one's response and subsequent reinforcement were independent. Like the dog who had received the unescapable shocks and who had learned that its behavior would not bring him relief, the depressed patient "has learned or believes that he cannot control those elements of his life that relieve suffering or bring him gratification. In short, he is 'helpless'" (Seligman, 1974, p. 98).

In order to provide support for learned helplessness as a model for depression, researchers have demonstrated rather strongly that similar deficits in performance could be obtained in depressed subjects and non-depressed subjects in which a state of helplessness had been induced (Hiroto, 1974; Miller & Seligman, 1975; Klein & Seligman, 1976; Klein, Fencil-Morse & Seligman, 1976; Willis & Blaney, 1978). A representative study which demonstrates these findings is one by Miller and Seligman (1975). Nondepressed and depressed college students were given either

an escapable, unescapable, or no-noise (waiting period equal in length to escapable and unescapable noise treatments) treatment prior to a task in which they were asked to solve 20 anagrams. They were also asked to discern a common pattern which could be used to solve all the anagrams. The researchers found that the response of the depressed subjects who received the no-noise treatment paralleled that of the nondepressed subjects that received the unescapable-noise pretreatment (induced helplessness). That is, both these groups were poorer in solving the anagrams and discerning the common pattern than the nondepressed, no-noise pretreatment group. Miller and Seligman suggested that these results demonstrated both cognitive (more trials to solve the common pattern) and motivational (longer latencies and more failure to solve the anagrams) deficits in these two groups. In demonstrating a further relationship between depression and helplessness, Miller and Seligman also found that the more severe the depression, the greater the helplessness deficits.

Researchers have further provided support for the learned helplessness model by demonstrating the perception of response and reinforcement independence in depressed persons (Miller & Seligman, 1973; Miller & Seligman, 1975). However, contradictory results in this area have been obtained. Miller and Seligman (1973) had depressed and nondepressed college students predict their probability of success following reinforcement in chance and skill tasks. From the theory, the authors predicted that the depressed subjects' expectancy changes following reinforcement would be smaller than the nondepressed subjects on the skill tasks, but would not differ on the chance tasks. Miller and Seligman reasoned that, as on the chance tasks, depressed subjects would

perceive response and reinforcement to be independent. The nondepressed subjects, however, would perceive response independence in the chance task but response dependence on the skill task. Their predictions were confirmed. Miller, Seligman, and Kurlander (1975), on the other hand, provided only marginal support. McNitt and Thorton (1978) and Willis and Blaney (1978) did not demonstrate perception of response-reinforcement independence in depressed persons after reinforcement.

Other support has been provided for the model by demonstrating that helplessness deficits can be alleviated through helplessness-reducing manipulations in both depressed persons and persons in which helplessness has been induced. Klein and Seligman (1976) gave depressed subjects and helplessness-induced subjects who had demonstrated helplessness deficits in prior testing a set of discrimination problems which were solvable. This resulted in a reversal of prior escape deficits and a change in perceptions of response-reinforcement independence in these subjects. Kilpatrick-Tahah and Rother (1978), however, found reversal of helplessness deficits after treatment in helplessness-induced subjects but not in depressed subjects. This result is not supportive of learned helplessness as a model for depression.

In recent years several criticisms have been leveled at Seligman's model and supporting evidence and Seligman, himself, has noted several inadequacies.¹ Blaney (1977) argues that, in the majority of studies which support Seligman's work, an induced-helplessness manipulation by

¹The following criticisms are not considered to cover the whole range of criticisms of Seligman's work. They are, however, a representative sample, and are illustrative of the attention, consideration, and research effort which have been generated by the learned helplessness model of depression.

means of failure to escape a situation or failure to solve a problem might also be interpreted as a self-esteem manipulation. Results of the studies could then be interpreted on the basis of the low self-esteem rather than perception of noncontrol. Blaney (1977) and Depue and Monroe (1978) also point out that most of the studies conducted have used college students as subjects. These authors suggest the necessity of carrying out similar research with depressed clinical populations, and at the same time question the generality of findings to a clinic population. Depue and Monroe also point to the need to use well-defined subgroups of depression so that analogies between learned helplessness and depression can be made precisely. Blaney (1977) suggests that additional empirical evidence needs to be found for the specificity of learned helplessness to depression (only one study, Miller et al. [1975], provided tentative support that the helplessness is related to depression and not to anxiety). In addition, Costello (1978) called for more direct measurement and specification of cognitive deficits. Rizley (1978) also argues that changes in expectancies in skill and chance tasks do not directly measure perceived response-reinforcement contingencies and therefore do not directly test the learned helplessness model of depression. He argues that one's expectation for reinforcement may exist independently of one's belief in one's control over the occurrence of that reinforcement. Abramson et al. (1978) have acknowledged Rizley's criticism and have agreed with him.

Abramson et al. (1978) discussed inadequacies of the original theory of learned helplessness as a model for depression (including most of the above criticisms) and have offered a reformulation of the theory in order to meet these criticisms and inadequacies. Abramson et al. (1978) noted

their and others' (Blaney, 1977) disenchantment "with the adequacy of theoretical constructs originating in animal helplessness for understanding helplessness in humans" (p. 50). Specifically, Abramson et al. acknowledged four inadequacies of the theory. They stated that it did not explain (1) variations in generality (i.e., whether depressives' symptoms generalize from situation to situation), chronicity (length of depression), and intensity of depression, (2) the tendency for depressives to make internal attributions for failure, a common characteristic of the depressed person, (3) lowered self-esteem as a symptom of depression, and (4) why people do not become depressed (emotionally) when they receive positive reinforcement which is not contingent upon their behavior.

To account for these inadequacies, Abramson et al. (1978) proposed that an attributional component was part of the process of perceived helplessness. Not only does the helpless or depressed person perceive response-outcome noncontingency, he or she attributes the noncontingency to a certain cause along several orthogonal dimensions which in turn sets up expectation for future noncontingency. For Abramson et al., the cause can be stable or unstable, a dimension which determines the chronicity of the helplessness or depression; global or specific, a dimension which determines to what degree future expectations of helplessness will generalize to other situations; and internal or external, a dimension which will determine whether self-esteem will be lowered and whether failure will be attributed to oneself or to others. For Abramson et al. (1978), the attribution of the helplessness to a cause will "affect his (the person's) expectations about future response-outcome relations and thereby determines . . . the chronicity, generality, and to some degree, the intensity of the deficits" (p. 56). The attribution

will also determine whether or not one's self-esteem will be lowered and whether depressed persons will attribute failure to themselves. What the attribution will not do, however, is explain why people do not become depressed (emotionally) when they receive positive reinforcement which is not contingent upon their behavior.

Seligman's (1974, 1975) original model recognized three helplessness deficits: (1) motivational, (2) cognitive, and (3) affective, which occurred as a result of the perception of response-reinforcement independence (uncontrollability). The reformulated model recognizes four deficits: (1) motivational, (2) cognitive, (3) self-esteem, and (4) affective. In this revised model, Abramson et al. (1978) contend that the first three deficits are a result of the expectation of uncontrollability; however they now contend that expectation of uncontrollability is not sufficient for the depressive affect to occur. For the person to experience the emotional component of depression, he or she not only must experience the expectation of response and reinforcement independence but also must expect that bad events will occur. Thus, for Abramson et al. (1978),

only those cases in which the expectation of response-outcome independence is about the loss of a highly desired outcome or about the occurrence of a highly aversive outcome are sufficient for the emotional component of depression (p. 65).

This stipulation therefore provides a vehicle with which to explain why people do not become emotionally depressed or saddened when they receive positive reinforcement over which they have no control.

The Abramson-Seligman-Teasdale reformulation moves the learned helplessness theory as a model of depression much closer to Beck's (1967, 1974). Although both theories have always been cognitive in nature, the

learned helplessness theory previously emphasized uncontrollability as the single cause of affective deficits. The reformulated theory's present emphasis on "expectations that bad events will occur" as the antecedent condition for affective deficits is very similar to Beck's negative expectations of the world and future. However, Abramson et al. (1978) still maintain that the deficits seen in depression (motivational, cognitive, self-esteem, and affective) are caused by the perception of uncontrollability (with the affective component requiring a second antecedent--expectation of bad events). Beck does not, as he believes these deficits are a result of a negative cognitive set. On a theoretical level, Beck's theory may prove to be more parsimonious and a more general theory of depression than the Abramson-Seligman-Teasdale reformulation of the learned helplessness model.

Although there exists experimental evidence which indicates support for the reformulated helplessness model of depression on a post hoc basis (see Abramson et al., 1978), the theory remains largely untested. Without doubt, the reformulated theory will provide an impetus for even more research on learned helplessness as a model for depression.

Beck's Cognitive Theory of Depression

Developed through his work with a clinical population, Beck's (1967, 1974) theory of depression proposes that depression is a result of a person's negative view of self, his or her experiences, and future. Beck labeled these three views the "cognitive triad," and further stated that its content reflected themes of loss and deprivation. For Beck, it is these negative cognitions which result in the observed and reported

affect and ineffectual behavior of the depressed person as well as other observed phenomena such as suicidal ideation and increased dependency.

Depressed persons, according to Beck (1967, 1974), purport a negative view of themselves. They believe themselves to be unworthy, blame and criticize themselves extensively, and see themselves as deficient. Depressed persons also evidence a negative view of their experiences. They interpret their experiences negatively--even when less negative interpretations are plausible or evident, see the world as consisting of insurmountable odds, and judge their interaction with the environment to be unsuccessful. Depressed persons also view the future negatively. They are pessimistic, believe that their life will continue with the same difficulties and frustrations, and believe future efforts on their part are fruitless as they can only fail. Beck also described a number of means through which depressed persons distort events. These means are arbitrary inference, selective abstraction, overgeneralization, magnification and minimization, and personalization.

Although much of the supporting evidence for Beck's (1967, 1974) theory is correlational (see Rush and Beck, 1977), some experimental evidence has been found for two of the components of the cognitive triad. Loeb, Beck, and Diggory (1971) demonstrated that depressed subjects, in comparison to nondepressed subjects, rated their performance as poorer on a card-sorting task, even though their performance objectively was not any poorer (negative view of self). Rizley (1976) demonstrated self-blame and criticism in depressed persons when he found that depressed subjects, in contrast to nondepressed subjects, tended to attribute failure on an experimental task to their own lack of ability or effort. Similar results were found by Klein, Fencil-Morse, and Seligman (1976).

Recently, however, some evidence has been found to challenge Beck's (1967, 1974) hypothesis that a depressed person's negative view of himself is a distortion. In a study examining social competency and perceived social competency in depressed persons, Lewinsohn, Mischel, Chaplin, and Barton (1979), in conjunction with Beck's theory, found that depressed persons perceived themselves to be less socially competent than normal and psychiatric control subjects. However, when the three groups' ratings of their own perceived social competence were compared with the ratings of objective observers, both control groups were found to rate themselves significantly more competent than the objective observers rated them. The depressed group's ratings, on the other hand, coincided with the observers' ratings. These findings suggest that although depressed person's may in fact view themselves negatively, they may be accurate in their perceptions.

In attempting to demonstrate that depressed subjects evidenced a negative view of experience, Nelson and Craighead (1978) found that depressed subjects, when given a predetermined rate of reinforcement, recalled less positive feedback and more negative feedback than non-depressed subjects while performing a laboratory task. In addition, they found that this phenomenon was greatest in the high positive and low negative feedback conditions. DeMonbreum and Craighead (1978), using a similar technique, found that depressed patients underestimated the amount of positive feedback received when asked to recall previous performance, in contrast to the control subjects. These researchers did not find, however, that depressed patients distorted their perception of neutral feedback negatively, as was predicted. Fewer studies have

focused on the perceptions of social interactions, the main interest of this paper.

As has been discussed, one of the components of Beck's (1967, 1974) cognitive triad is the depressed person's negative interpretations of his or her experiences (world). Taking into account that the majority of one's experiences in the world involve, at least in some way, interactions with other people, it is surprising that so little attention has been paid to the depressed person's perception of social interactions. Only three studies to date have attempted to examine this area, and in one of these studies the examination was not the main thrust of the study.

McLean, Osgood, and Graven (1973), interested in assessing the effectiveness of a behavioral approach to treatment, compared the treatments of two groups of depressed patients and their spouses. One group, referred to as the experimental group, received treatment using a behavioral approach. The comparison group consisted of a group of patients whose depression was monitored in the same way as the experimental group, but whose treatment varied according to the agency treating the patient. As it turned out, patients in the comparison group received a variety of treatments including drug therapy, individual consultation, group therapy, a combination of drug and group therapy, or no therapy with a patient's condition being monitored by a family physician. For one assignment in the behavioral treatment approach, the patients and their spouses were asked to engage in a 20-minute discussion once a day, five days per week over a four-week period. These discussions were to cover conflictual, interpersonal relationships. During this time, they were asked to indicate by use of a cue box whether they perceived a

particular interaction by their spouse as negative or positive. Patients in the experimental group reported perceiving verbal communications from the spouse as negative 61 percent of the time in the initial session and 45 percent of the time after four weeks (44 and 39 percent, respectively, for the spouses). The drop in percent of verbal communication perceived as negative by the patients coincided with the improvement of the depressive states. Although this finding provides indirect support for Beck's hypothesis that the depressed person interprets his or her experience (in this instance interpersonal experience) negatively, one cannot be certain, as the authors pointed out, whether the patient was distorting the interactions negatively or whether the patient was actually correct in perceiving the behavior of their spouses.

Lunghi (1977) attempted not only to provide experimental evidence for negative distortions of social relationships in depressed patients, but also to ascertain whether or not these distortions, if they existed, would persist after the depressed mood was alleviated. In his study, 40 depressed inpatients and 40 nonpsychiatric inpatients were asked to fill out the Zung depression scale and several other self-report measures and to evaluate real life and hypothetical social relationships. Lunghi found that in both cases, depressed patients rated social relationships more negatively than the nonpsychiatric medical inpatients. Further, 22 of the depressed patients were retested just before or just after their discharge from the hospital. Significant improvement was found only for the Zung depression scores and a self-report depression scale. No significant change was found for other self-report measures (self confidence, anxiety in social situations, etc.) or in the depressed patients' perceptions of social relationships. Lunghi pointed out the

need to re-examine criteria used to discharge depressed patients from the hospital (i.e., alleviation of the depressive mood only). He also suggested that a change in possible predisposing variables in depression, such as negative distortions, should also be considered before determining that sufficient improvement by the depressed person has been achieved for discharge purposes.

In both Lunghi's (1977) and McLean et al.'s (1973) studies, the authors point out that the greater occurrence of negative distortions by the depressed patients may in fact be based on "correct" perceptions of adverse relationships or interactions. Lunghi attempted to remedy this problem by including in his study hypothetical or imaginary relationships. However, this procedure also does not provide a uniform standard of a relationship by which perceptions of depressed patients and a control group can be compared (that is, the nature of the relationships to be imagined was not clearly specified).

Using a creative methodological procedure, Guza (1977) addressed the issue of controlling for the quality and type of interactions which depressed and comparison groups were asked to rate. Guza had depressed and non-depressed college students rate 18 audiotaped social interactions (six positive, six negative, and six neutral). The audiotaped interactions depicted everyday situations which took place at school, work, or home. Each scene consisted of at least one college-age student interacting with a peer or person in authority. The scenes were classified in the three general categories of positive, negative, or neutral on the basis of ratings by five independent judges. Guza found that depressed subjects rated positive interactions more negatively than nondepressed subjects. However, he did not find support for his hypotheses that

depressed subjects would rate neutral and negative scenes more negatively, although in the former case, findings were in the predicted direction. Although no significant sex differences were found, Guza found several nonsignificant "trends."

Reasons for the lack of significant differences in Guza's study in regard to the neutral and negative categories could be related to the following: (1) The subjects used were not direct targets of the social interactions, perhaps resulting in his failure to get significance for all his hypotheses; (2) his criteria for depression placed most of his subjects in the lower, mild range of depression (13 and above on the Beck Depression Inventory) which may not have been severe enough for him to achieve significant differences; and (3) he did not use a depressed psychiatric population, which may differ significantly in behavior from a college population.

In addition to the cognitive triad, Beck (1976) hypothesizes that the depressed person has negative schemas, i.e., beliefs or assumptions usually developed from childhood, from which negative cognitions are generated. For example, depressives who evidence negative cognitions with a theme of worthlessness may have the underlying assumption that for them to be worthwhile, they must be loved or approved of by everyone. When this belief is not met, negative cognitions such as "I am worthless," or "I am inadequate," may be generated. Depression then would ensue if a situational stimulus activated depressogenic schema which in turn generated a set of negative cognitions.

In order to assess these negative schemas and to provide empirical support for this aspect of Beck's (1976) theory, Weissman (1977) developed the Dysfunctional Attitude Scale. This scale consists of a series

of beliefs or attitudes such as "People will think less of me if I make a mistake," or "My life is wasted unless I am a success." These statements are rated on a scale from one to seven, with seven being the least adaptive reaction to the belief in question, and one being the most adaptive reaction. A person's composite score is his or her score for the scale, with the higher the score the more dysfunctional the attitudes. The scale has shown good test-retest reliability ($\underline{r} = .86$ and $.86$ for Form A and Form B of the scale, respectively) and a high degree of internal consistency ($.93$ alpha coefficient for the original scale). The DAS has been shown to correlate highly with the Beck Depression Inventory in two studies ($\underline{r} = .58$, Weissman and Beck [1977]; $\underline{r} = .65$, Weissman and Beck [1978]), and with other measures of depression (Weissman & Beck, 1978), resulting in measures of concurrent validity. Further validation of the DAS is still needed.

CHAPTER III

STATEMENT OF THE PROBLEM

Beck's (1967, 1974) theory of depression proposes that depression is a result of a person's negative view of his or her self, experiences (world), and the future. For Beck, it is the negative cognitions which result in the observed and reported affect and ineffectual behavior of the depressed person. Beck (1976) further theorizes that depressed people screen out or fail to integrate successful experiences which are inconsistent with their negative view of themselves. In addition, the depressed person interprets ambiguous feedback in a negative way and slightly negative feedback in an even more negative way. At the present time, Beck's work is supported mostly by clinical observation and correlational studies. In general, there is a lack of experimental research to support his theory, and only three studies (Guza, 1977; Lunghi, 1977; McLean et al., 1973) have attempted to explore the area of perception of social interaction.

The present study was designed to expand on the work of Guza (1977) in an effort to provide further experimental support for Beck's hypothesis that depressed persons distort events and experiences negatively. Specifically, this study was designed to determine if negative distortions occur within social interactions. In contrast to Guza's study, this study employed depressed psychiatric patients and a nondepressed,

nonpsychiatric control group. This change allowed for greater generalizability of the results to a patient population and utilized subjects whose depression was severe enough for cognitive distortion, if present, to occur. This study also used videotapes of interactions in order to control for extraneous variables which could accrue when using real social situations or role playing. It was also designed to simulate more "real life" interactions than were provided by the audiotapes which Guza used and to examine the effect of directing the interactions toward the depressed person rather than toward someone else (as was done in Guza's study). With respect to the latter point, conflicting views have been presented. Beck (1967) hypothesized that the depressed person engages in a negative view of self, world, and future. Munoz and Lewinsohn (1977) on the other hand, found that depressed subjects viewed events about themselves more negatively than nondepressed subjects, but did not differ from nondepressed subjects on their view of the "world."

Lunghi (1977) found that the negative distortions of depressed inpatients continued to exist after their depressive mood had improved. This study was also designed to determine if negative distortions are specific to persons in the depressive state or whether this type of thinking persists in the depressed person after the depression is alleviated, by including a comparison group of depressed patients in remission. Furthermore, this study was designed to clarify the meaning of the negative distortions for the depressed patients by having subjects rate each interaction in terms of hostility, acceptance, worth, and other characteristics.

As a check on the effectiveness of the videotaped social interactions, it was hypothesized that subjects overall would rate negative and

neutral interactions lower (i.e., in a more negative or socially undesirable way) than positive interactions. It was also expected that negative interactions would be rated lower than neutral ones. However, the major hypothesis, consistent with the Munoz and Lewinsohn (1977) findings, was that depressed psychiatric patients would rate social interactions (positive, neutral, and negative) lower than the nondepressed, nonpsychiatric controls, but only when the subjects were instructed to consider the interactions as being directed specifically toward them rather than others.

The Dysfunctional Attitude Scale (Weissman, 1977) was designed to assess the extent to which persons hold assumptions or beliefs that may predispose them to depression (depressogenic schemas). Although reliability measures (internal consistency and test-retest) have been obtained for this test, validity measures are still needed. Therefore, this study was also designed to provide validity data for the Dysfunctional Attitude Scale.

CHAPTER IV

METHOD

Subjects

Sixty volunteer, female subjects between the ages of 21 and 61 were recruited from the Oklahoma University Health Sciences Center Psychiatric Hospital and Clinics and the local community. Twenty of these subjects were psychiatric patients with a primary diagnosis of depression; 20 subjects were patients who had received a primary diagnosis of depression and who were in remission; and 20 were nondepressed, nonpsychiatric controls with no history of significant clinical depression. The three groups of subjects were comparable with respect to age. The mean ages for each group was 39.4 for the depressed group, 36.6 for the remitted depressives, and 34.1 for the controls. The three groups differed as to educational level with a mean of 12.0 years of education completed for the depressed group, 13.8 for the remitted depressives, and 14.25 for the controls. The differences in educational level between groups were accounted for in the statistical analysis with the use of covariate procedures when indicated (see Chapter V).

Criteria for establishing the existence of a primary diagnosis of depression were a score of 20 or greater on the Beck Depression Inventory (BDI) and the Research Diagnostic Criteria (RDC) developed by Feighner, Robins, Guza, Woodruff, Winokur, and Munoz (1972) and revised

by Spitzer, Endicott, and Robins (1978). Criteria from the RDC for a diagnosis of depression are the presence of dysphoric mood, a depressive episode lasting one month or longer, and five out of eight of the following criteria: (1) poor appetite or weight loss (two pounds in one week or 10 pounds in one year when not dieting), (2) sleep difficulty, (3) loss of energy, fatigability, tiredness, (4) agitation or retardation, (5) loss of interest in usual activities or decrease in sexual drive, (6) guilt, (7) difficulties thinking or concentrating, and (8) suicidal ideation or behavior (Feighner, 1972). In conjunction with the RDC, further criteria for a primary diagnosis of depression were the absence of overt psychotic symptoms, organic brain syndrome, drug and/or alcohol abuse, schizo-affective disorder-depressed type, manic-depressive disorder, and hypomanic disorder. A psychiatric interview with the patients using a mental status exam and selected sections of the lifetime version of the Schedule for Affective Disorders and Schizophrenia (SADS-L), developed by Endicott and Spitzer (1977), were conducted by trained personnel (a psychiatrist, psychologist, social worker, medical students, and the writer, who was a doctoral student in clinical psychology) to establish the presence and/or absence of the aforementioned criteria. Remitted depressives were those patients for whom a primary diagnosis of depression had been established using the above criteria, but who had maintained a BDI score of nine or less for at least a two-month period. Criteria for nondepressed controls were a score of nine or less on the BDI and no history of significant clinical depression. BDI scores ranged from 20 to 49 with a mean of 31.6 for the depressed group, from 0 to 9 with a mean of 3.7 for the remitted depressives, and from 0 to 9 with a mean of 3.0 for the controls. All patients agreed to participate in a

study involving the perception of social interactions and signed a consent form.

Additional data regarding the remitted depressives were collected and are presented for the reader's information. At the time of their participation in the study, 16 of the 20 remitted depressives were not taking antidepressant medication and 15 were not currently in therapy. Of the five subjects participating in therapy, one was in therapy of a psychodynamic nature, one was receiving both psychodynamic therapy and antidepressant drug therapy, and three were receiving only antidepressant drug therapy. Seven previously depressed patients who had completed some type of therapy and who were considered by their therapists to be in remission (BDI score of nine or less at the end of therapy among other criteria) participated in the study but were excluded in that they did not meet criteria for the remitted group. Six of these patients achieved BDI scores between 10 and 13, suggesting they were mildly depressed, and one achieved a BDI score of 23 and met all other criteria for a current primary diagnosis of depression.

Materials

Beck Depression Inventory (BDI)

The Beck Depression Inventory (Beck, Ward, Mendelson, Mock & Erbaugh, 1961) is a 21 item, multiple choice questionnaire which was constructed to measure severity of depression. The items are clinically derived and represent behavioral manifestations of depression. Each item is composed of four statements which are ordered according to severity of depression (none to severe) and are given scores from zero to three. The patient (or subject) is asked to circle the statement in

each item which best describes him or her during the last seven days. The scores on each item are added to obtain the patient's scores. A score of 0 to 9 represents no depression, 10 to 17 represents mild depression, 18 to 24 represents moderate depression, and 25 or greater represents severe depression.

A number of reliability and validity studies have been conducted on this instrument, the results of which suggest its appropriateness as a means of measuring depression and its severity (Beck, 1967). Internal consistency estimates of the instrument using Pearson product-moment correlation (r) range from .86 to .93. Concurrent validity studies show the BDI to correlate .65 and .67 (Pearson biserial r) with clinical ratings of depression in two studies, .40 to .66 with the Depression Adjective Check List, .75 with the Multiphasic Personality Inventory (MMPI) Depression Scale, and .75 (Spearman Rank Correlation) with the Hamilton Rating Scale.

As this study used a changed BDI score from 20 or greater to nine or less to indicate remission of symptoms in previously depressed patients, it is important to note that in several studies the BDI has been shown to predict clinical change (Beck, 1967). In one study, the change in severity of depression as determined by a psychiatrist's ratings was correctly predicted by BDI scores in 28 out of 33 cases or 85 percent of the time. In another study, the BDI correlated .73 (Pearson r) with post-treatment ratings of depression.

As a BDI score of 13 or greater can result from other forms of psychopathology (Beck, 1967), other criteria were used to further establish the presence of a primary depression in the patient population employed in this study (see below).

The Research Diagnostic Criteria and the
Lifetime Version of the Schedule
for Affective Disorders and
Schizophrenia

The Research Diagnostic Criteria (RDC) were included as criteria to further establish the existence of a primary diagnosis of depression in the patient population used in this study. These criteria were developed by Feighner et al. (1972) as a means of establishing reliable and valid diagnostic criteria for research purposes. Since 1972, these criteria have been revised by Spitzer et al. (1978). These criteria are also being used by A. John Rush, M.D., of the University of Texas Health Sciences Center at Dallas (personal communication) to screen for persons appropriate for a depression treatment program. The lifetime version of the Schedule for Affective Disorders and Schizophrenia (SADS-L), developed by Endicott et al. (1977) is a structured interview technique designed to elicit information pertaining to the above criteria. Three sections of the SADS-L were used to rule out manic-depressive disorder, hypomanic disorder, and schizo-affective disorder-depressed type. All other inclusion and exclusion criteria for a diagnosis of depression were established through the use of a focused clinical interview.

Reliability studies of the Research Diagnostic Criteria have shown interrater agreement and test-retest agreement to be high. In regard to interrater agreement, Spitzer et al. (1978) report kappa coefficients of agreement for the major diagnostic categories in two separate studies as .80 (first study only) for schizophrenia, .86 and .95 for schizo-affective disorder-depressed type, .82 and .98 for manic disorder, .88

and .90 for major depressive disorder, .81 (second study only) for minor depressive disorder, .86 and .97 for alcoholism, and .76 and .95 for drug abuse. (No coefficient was obtained for the schizo-affective disorder-manic type category, as no patient was diagnosed as such.) In a third study reported by Spitzer et al., test-retest reliability for the above categories was reported to be .65 for schizophrenia, .79 for schizo-affective disorder-manic type, .73 for the schizo-affective disorder-depressed type, .82 for manic disorder, .90 for major depressive disorder, 1.00 for alcoholism, and .92 for drug abuse. (No coefficient was reported for minor depressive disorder.)

Examining validity across all diagnostic categories, Feighner et al. (1972) reported two validity studies of the original criteria, with validity defined as "correctly predicting diagnosis at follow-up" (p. 58). In one study using 314 psychiatric emergency room patients and four raters, validity was estimated at 93 percent agreement (18-month follow-up). In the second study which used 87 psychiatric inpatients and two raters, validity was estimated at 92 percent agreement (seven-year follow-up).

Dysfunctional Attitude Scale (DAS)

The original form of the DAS was a 100-item test consisting of statements as "People will like me if I am not successful," and "If a person I love does not love me, it means I am unlovable." A person is asked to indicate how much he or she agrees with each statement on a seven point scale ranging from "totally agree" to "totally disagree." Statements in which total agreement indicates an adaptive reaction to a belief are given a score of "7," while statements in which total

agreement indicates a maladaptive reaction are given a score of "1." Other points on the scale are then labeled accordingly. For example, for indicating "agree very much" to an adaptive reaction, the person would receive a "6" for that statement. The values given to all statements are then totaled, and the total becomes a person's score.

Concurrent validity measures have been established for the DAS. In one study, using 35 depressed patients, the DAS was shown to correlate highly with the Beck Depression Inventory, $r = .58$, $p < .001$ (Weissman & Beck, 1977). In a study employing 25 graduate students (Weissman & Beck, 1978), the DAS was found to correlate .65 with the BDI; .62 with the Hammen and Krantz story completion test, which measures cognitive distortions; and .76 with the depression scales of the Profile of Mood States, a self-report test measuring one's affect and mood. In this study, the DAS was also shown to have a high degree of internal consistency (.93 alpha coefficient) and test-retest reliability ($r = .71$).

Two short forms of 40 items each have been factor analytically derived from the original 100 items, in order to shorten the time needed to complete the DAS. Weissman (1979) found that the correlation between the two forms was .79 and that the mean scores differed by less than one percent. In addition, she found that the test-retest reliability was .86 for Form A and .87 for Form B. Form B was used in this study and was filled out by the subjects after they rated the nine interactions.

Socio-Demographic Questionnaire

A socio-demographic questionnaire was given to subjects at the end of the study in order to ascertain subject characteristics. It included such data as age, sex, race, educational level, etc. (Appendix A).

Videotapes

Two color videotapes of nine scenes were developed to provide the simulated dyadic interactions (Appendix B). Although only one person (the actor) spoke in each scene, it was considered to be an "interpersonal interaction or situation," because two people were involved in the simulated scenes and the silent person was the object of the interaction. The use of a videotape procedure to simulate an interpersonal interaction or situation has effectively been used by Kagan and his associates to teach psychotherapy to beginning therapists (Kagan, 1973; Kagan, 1975; Van Noord & Kagan, 1976). The advantage of the simulated videotape interactions was that the subjects were exposed to exactly the same social stimuli, thereby minimizing variance in verbal and nonverbal behavior which is usually associated with role playing or field studies.

Three professional male actors between the ages of 26 and 35 and one female volunteer from the Audio-Visual Department at the Oklahoma University Health Sciences Center were used to simulate the nine interpersonal scenes. The scenes depicted everyday interactions occurring in vocational, peer, and marital (close heterosexual) relationships. The simulated scenes were identical for each tape except that one tape was composed of male actors (one at a time) directing interactions toward the subject (self), and the second tape was composed of male actors (one at a time) directing the interactions toward another female (other). In the first tape, each actor faced the camera directly, as if speaking to the subject, and was shown from the chest up. In the second tape, each actor also faced directly into the camera and was shown from the chest up so that the same parts of the body as in the

first tape were exposed to the subject. In the second tape, however, the back of the volunteer female's head was seen, and the actor's eye contact (and message) was directed toward this second person. By having the actor(s) face directly into the camera, similar nonverbal as well as verbal behavior was produced so as to minimize additional variance.

The nine interactions were divided evenly into three general categories classified as positive, neutral, or negative for the general evaluative quality. The designation of a scene into a category was determined on the basis of the ratings of four independent judges on a nine-space semantic differential scale. Each space on the scale represented a number from one through nine and was labeled positive on one end, negative at the other end, and neutral above the center space. The judges were volunteer, female clinical psychology graduate students. A scene was classified as positive if it received a consistent rating of seven through nine, as neutral if it received a consistent rating of four through six, and as negative if it received a consistent rating of one through three. A consistent rating was three out of four judges rating the scene as described above. However, one neutral scene produced slightly more variable scores (4, 3, 7, 6) but was included in that the mean rating of the four judges was 5.0. Each actor did one positive, one neutral, and one negative scene. The order of the positive, neutral and negative scenes and the performance of a particular actor was systematically arranged to counteract order effects. Also, each of the content areas (involving vocational, marital, or peer relationships) was represented in each of the three categories of interactions (see Table I).

Each scene was preceded by a visual (in print on the screen) and auditory description of the scene and directions to the subject on how

TABLE I
 ORDER OF PRESENTATION OF SCENES FOR BOTH SELF
 AND OTHER CONDITIONS

Scene	Category	Actor	Content Area
1.	+	A	V
2.	-	B	V
3.	o	C	V
4.	o	B	M
5.	+	C	M
6.	-	A	M
7.	-	C	P
8.	o	A	P
9.	+	B	P

+ = Positive

- = Negative

o = Neutral

A = 1st Actor

B = 2nd Actor

C = 3rd Actor

V = Vocational

M = Marital

P = Peer

to rate each scene. Each visual/auditory description was approximately 20 seconds in length. The actor then enacted the scene. The scenes lasted approximately 45 seconds each. Following each scene, two minutes of blank leader film were presented so that the subjects had time to rate each scene. The subject was alerted to each scene by a two-second buzzing noise which preceded the visual description by one second.

Rating Scales and Forms

This study used the semantic differential technique to quantify the evaluation of the social interactions. This technique was developed by Osgood, Succi, and Tannenbaum (1957) and has been shown to be effective in the quantification of the meaning of concepts (Snider, 1969). The semantic differential technique consists of using bipolar adjectives on the opposite ends of a seven-space scale to describe a designated concept. For example:

DICTATOR

good ___:___:___:___:___:___:___:bad

Each of the seven spaces usually represents a number from one through seven (or for example -3 to +3). The meaning and the intensity of the concept is quantified by where a subject marks "X" on the scale. The direction of the "X" (i.e., in the direction of one of the adjectives or the other) and the distance of the "X" toward either end correspond to the meaning of the concept and the intensity for the subject.

Osgood and Succi (1955) have found the test-retest reliability coefficient to be .85 over a short time period. They also used 20 concepts and 50 adjectives in all possible combinations and orders to conduct a study on the factor analysis of meaning. In two independent

studies, three independent factors were discerned: an evaluative factor, a potency factor, and an activity factor. The evaluative factor in both studies was shown to account for over half the extracted variance. These studies led Osgood and Succi to conclude that there are three "independent dimensions of semantic space within which the meaning of concepts may be specified" (p. 338).

Further support for Osgood and Succi's contention that there are three dimensions to the measurement of meaning is given by Friedman and Gladden (1964). These researchers conducted a study on the meaning of social roles and found that all three dimensions differentiated the roles studied. They concluded that the use of the three dimensions provides greater precision in the measurement of meaning than using only an evaluative or attitudinal scale.

Eleven rating scales therefore were chosen to evaluate the perception of social interaction. One scale consisted of the bipolar adjectives, positive/negative, for a global evaluative rating. Three other scales were used from Osgood and Succi's factor analytic study to represent the three dimensions. Good/bad was used to represent the evaluative factor, active/passive was used to represent the activity factor, and strong/weak was used to represent the potency factor. In addition, seven other bipolar adjectives, determined by this writer due to their applicability to social interaction, were used to qualify further the evaluation of the social interactions. These adjectives were friendly/hostile, dominant/submissive, trustful/distrustful, accepting/rejecting, supportive/unsupportive, kind/unkind, and warm/cold. The scales were constructed using a nine-space scale, as Gulliksen (1958)

found that by adding more spaces to a scale, one could attain more precision in measurement.

The rating forms (see Appendixes C and D) were printed on 21.4- by 27.7-cm sheets of paper. Each sheet contained the semantic differential scales as discussed above. Each scale was numbered and varied randomly as to how each end of the scale was labeled in regard to its socially desirable or undesirable connotation. For instance, the first scale was labeled negative to positive, while the second scale was labeled good to bad. The scale labels were varied to avoid a response bias. Above the scales were the headings "extremely, very, quite, slightly, neutral, slightly, quite, very, and extremely" to aid subjects in rating the interactions. For the statistical analysis, each semantic space represented a number from one to nine with "1" representing the most socially undesirable (e.g., negative, weak, or passive) interpretation or meaning and "9" representing the most socially desirable (e.g., positive, strong, or active) interpretation or meaning. Each sheet contained directions for rating which were appropriate to each interaction and which corresponded to the written instructions preceding each videotaped scene (see Appendixes B, C, and D). General instructions for rating the interactions were provided in the instructions given to the subject at the beginning of the experiment (see Appendixes E and F).

Procedure

Phase 1--Selection of Subjects

Depressed Psychiatric Patients and Depressed Psychiatric Patients in Remission. All female patients seen at the University Hospital

Outpatient Clinic who had either a Beck Depression Inventory (BDI) score of 20 or greater and no overt psychotic symptoms or a BDI score of nine or less and a history of primary depression were approached by this researcher and asked to participate in the study. Before approaching a potential subject, permission from the patient's therapist was obtained. The researcher was a person trained in the assessment and treatment of depression. The researcher described the study to the subject and included in the discussion issues of confidentiality, benefits and risks, the volunteer nature of the study, and the availability of the results of the study upon request (see Appendix G). If the patient agreed to participate, a consent form was then signed (see Appendix H). For the patient with a BDI score of 20 or greater, this researcher then conducted an interview and established the presence or absence of a primary depression according to the criteria outlined above. Whether or not the patient fit the criteria, she then participated in the experiment outlined in Phase 2 below. In this way, no patient encountered a rejection experience by agreeing to participate and then not being allowed to because she did not fit the criteria.

Patients also were recruited by notifying staff personnel at University Hospital and Clinics (including psychiatrists, psychologists, psychiatry residents, psychology interns, and social workers) of this research project and the criteria set for subjects. These staff members were asked to present this study to appropriate patients and to ask them if they would be willing to participate. If a subject were willing to participate, she either contacted the researcher or was contacted by her, and an appointment was set up. The same procedure as outlined above for the presentation of the study and screening then was conducted.

Nondepressed, Nonpsychiatric Controls. These subjects were recruited by this researcher from University Hospital staff members such as nursing staff, medical technicians, etc., or members of the local community. Subjects were asked to participate, the study was described to them, and a consent form signed as above. Subjects were asked to fill out a Beck Depression Inventory and were interviewed to determine presence or absence of past significant clinical depression. If the subject met the criteria, she was asked to participate in Phase 2. If she did not meet the criteria, she was thanked for her participation and the interview was terminated.

Phase 2

The room in which the subjects were tested contained a cassette, video-tape playback machine at one end. A chair was positioned approximately two meters from the video-tape equipment and faced the equipment directly. A subject was asked to sit in the chair facing the equipment, while the examiner sat in another chair one meter to the right of the equipment, facing the subject. The examiner then instructed the subject as to how to rate the interactions (see Appendixes I and E for subjects in the SELF condition and J and F for subjects in the OTHER condition). For visual aids, subjects were given a copy of the rating sheet without instructions and an example scene with rating instructions at a specified time in the instruction sequence (see Appendixes E and F). The subject was asked to read along with the examiner as she went through the sample. Instructions differed slightly for those subjects in the SELF condition and those in the OTHER condition (see Appendixes I and E, and J and F, respectively). The subjects were then given the rating forms, a pencil,

and a clipboard. The videotape machine was started. The researcher then moved to the far side of the room so as not to be "watching" the subject but to be available if any procedural difficulties arose. Instructions for rating each interaction appeared visually and auditorally before the presentation of each interaction (see Appendixes B, C, and D). After the instructions, the subject observed an interaction and then was allowed approximately two minutes to complete the ratings. The subject then went to the next rating form and waited for the next interaction to begin, as per instructions. This procedure was repeated through nine interactions. After the ninth interaction, the subject was given the Dysfunctional Attitude Scale and the socio-demographic questionnaire to fill out (see Appendix A for the latter form).

After the subject completed the form, the researcher spent 15 minutes or more assessing the general effectiveness of the experimental manipulation of the SELF/OTHER condition and the emotional state of each subject with questions outlined in Appendix K. (The researcher had had extensive clinical experience and training and had completed a clinical psychology internship.) By self-report, each subject in the SELF condition in general was able to imagine herself interacting with the person on the video screen. By self-report, each subject in the OTHER condition viewed the interactions as occurring to others not herself. Therefore, it appeared that the experimental manipulation for the SELF/OTHER condition was successful. The questions regarding the emotional state of the subjects were used to identify any potential adverse effects following the experimental procedure. Adverse effects were considered to be very unlikely, but if any subject did need further reassurance, a psychiatric resident was available to consult and the patient's therapist was

contacted if necessary. In no case did a subject become more depressed, and no adverse effects were displayed or reported by the subjects. The subject was informed that at the end of the study she could obtain a copy of the study's results if she so desired. Any questions the subject had about the study were elicited and answered.

Statistical Analysis

Information obtained from the socio-demographic questionnaire and the Dysfunctional Attitude Scale was analyzed for depressed, remitted depressives, and control subjects. One-way analyses of variance were used to analyze questions on the socio-demographic questionnaire which yielded continuous numerical data. Chi-square tests were used for questions yielding frequency data. A one-way analysis of variance was used to analyze DAS scores.

On each rating scale, each semantic space represented a number from one to nine, with "1" representing the most socially undesirable (e.g., negative, weak, or passive) interpretation and "9" representing the most socially desirable (e.g., positive, strong, or active) interpretation. A subject's score on each of the 11 ratings was the number coinciding with the space that the subject had marked. Each subject therefore had 11 scores for each interaction, and 11 dependent variables were analyzed in this study. For each of the 11 scales, scores for the positive, neutral, and negative categories were obtained by summing the ratings of the three positive, then the three neutral, and then the three negative interactions and dividing them by three in each case. A subject therefore had three scores (one for each category) for each of the 11 scales.

A multivariate analysis of variance was used to explore significance in general and to serve as a control for error rate. A 3x3x2 split plot analysis of variance or covariance then was used to analyze each rating as the multivariate analysis revealed significant findings (see Chapter V, Results). (As a one-way analysis of variance indicated that the groups differed as to educational level, Pearson correlation coefficients were computed for education and ratings on each scale. For those ratings which correlated significantly with education, analysis of covariance was used instead of an analysis of variance.) In this design, the three groups of subjects (depressed patients, remitted depressives, and controls) constituted a factor A which was entitled "group effect"; the classification of the interactions (positive, neutral, and negative) constituted factor B which was entitled "category effect"; and the object of the interaction (self versus other) constituted factor C which was entitled "condition effect." Simple main effects and post hoc tests were conducted when significance was found within the 3x3x2 analyses of variance or covariance. To test the hypothesized differences between the depressed and the control groups, three planned t-tests were used to compare these groups' ratings in each category for the self and other conditions.

CHAPTER V

RESULTS

Analysis of Responses to the Socio-Demographic Questionnaire

Frequency and mean data for responses to the socio-demographic questionnaire are presented in Table II. Analyses of the data are found in Appendix O, Tables XXVII through XXXV.

Age and education were analyzed using one-way analyses of variance to determine if the groups were comparable on these two characteristics. The mean age for the three groups was 39.4 for the depressed patients, 36.6 for the remitted depressives, and 34.1 for the controls. These means were not found to be significantly different from each other, and the three groups were considered to be comparable with respect to age (see Appendix O, Table XXVII). For educational level, a significant result was obtained, $F_{(2,57)} = 6.01$, $p < .01$. The means for years of education completed were 12.0, 13.80, and 14.25 for the depressed group, remitted depressives, and the controls, respectively. Post hoc comparisons using Tukey's HSD test revealed that the depressed group had completed fewer years of education than the other two groups (see Appendix O, Table XXXI). Since these results suggested that the three groups were not comparable with respect to educational level, education was taken into consideration when analyzing the ratings on the 11 scales and

TABLE II
 FREQUENCY AND MEAN DATA FOR RESPONSES TO THE
 SOCIO-DEMOGRAPHIC QUESTIONNAIRE

	Depressed	Remitted Depressives	Controls
Mean Age (years)	39.40	36.60	34.10
Marital Status			
Single	3	3	1
Married/Cohabitation	4	9	16
Widowed	4	1	0
Separated/Living Apart/Divorced	9	7	13
Mean Number of Children	2.75	1.50	1.45
Religious Preference			
Agnostic	1	3	1
Protestant	15	14	12
Catholic	3	2	7
Other (includes Atheist)	1	1	0
Mean Years of Education	12.00	13.80	14.25
Subject's Occupation			
Professional Persons	4	7	8
Office Workers and Skilled Workers	5	5	11
Unskilled Workers and Housewives	8	5	1
Student and No Occupation	3	3	0
Subject's Husband's Occupation			
Professional Persons	2	6	10
Office Workers and Skilled Workers	11	9	6
Unskilled Workers	4	2	2
Student	0	1	1
Subject's Father's Occupation			
Professional Persons	2	8	11
Office Workers and Skilled Workers	11	8	8
Unskilled Workers	5	3	1

TABLE II (Continued)

	Depressed	Remitted Depressives	Controls
Subject's Mother's Occupation			
Professional Persons	3	5	2
Office Workers and Skilled Workers	2	3	4
Unskilled Workers and Housewives	15	12	14
Subject's Employment Status			
Employed in a regular job	8	7	17
Employed, but in a part-time job	1	3	2
Marginally employed	1	0	0
Unemployed	5	2	0
Retired	0	2	0
Housewife/Student (no status)	5	6	1
Subject's Husband's Employment Status			
Employed in a regular job	13	11	18
Employed, but in a part-time job	0	0	0
Marginally employed	0	1	0
Unemployed	0	0	0
Retired	1	3	0
Student (no status)	0	1	1
Subject's Father's Employment Status			
Employed in a regular job	7	7	9
Employed, but in a part-time job	0	1	1
Marginally employed	0	0	0
Unemployed	0	1	0
Retired	4	3	6
Student (no status)	0	0	0
Subject's Mother's Employment Status			
Employed in a regular job	6	6	3
Employed, but in a part-time job	0	0	3
Marginally employed	0	0	0
Unemployed	0	0	0
Retired	2	0	0
Housewife/Student (no status)	6	10	13

the scores on the Dysfunctional Attitude Scale (DAS). (See below discussion of Rating and DAS results).

Results of the analysis of the socio-demographic questionnaire further revealed that the three groups differed significantly as to their marital status, $\chi^2_{(6)} = 25.36, p < .01$ (See Appendix 0, Table XXVIII). Examination of the data suggests that the depressed patients were less often married or cohabitating than either the controls or the remitted depressives, and that the remitted depressives were less often married or cohabitating than the control group. The data further suggest that the depressed patients and the remitted depressives were more often separated, living apart, or divorced from their spouses than the controls; and that depressed patients were more often widowed than either the controls or the remitted depressives. The groups did not appear to differ greatly on the number of them which were single.

A one-way analysis of variance also indicated that the three groups differed significantly on the number of children that they had, $F_{(2,57)} = 3.56, p < .05$. Post hoc tests, however, were unable to provide further information as to the differences in that none of the pair-wise comparisons reached significance at the .05 level (see Appendix 0, Table XXIX).

Employment status for the subjects, their spouses, mothers, and fathers was not analyzed due to small expected frequencies in each category and an inability to collapse the data in any meaningful way for chi-square tests.

Rating Data Analysis

The results of the multivariate analysis of variance for the 11 variables using Wilks' criterion indicated significant main effects for

groups, $F_{(22,88)} = 1.86$, $p < .02$; and for categories, $F_{(22,88)} = 48.15$, $p < .0001$. In addition, this analysis indicated a significant interaction effect between group and category, $F_{(44,376)} = 1.44$, $p < .04$. Since the multivariate analysis takes in to account the interrelationships among the dependent measures, these significant results provide justification for additional analyses using univariate methods.

As a result of significant differences between groups in regard to education, Pearson correlation coefficients were obtained between educational level and each of the dependent measures before performing univariate tests. Significant correlations were obtained only for the ratings on the good/bad, active/passive, and supportive/unsupportive scales (see Table III). Analyses of covariance with years of education as the covariate therefore were performed on the ratings for each of these three scales. Results of covariate procedures revealed that the covariate effect of educational level was significant only for the good/bad rating scale, $F_{(1,53)} = 4.83$, $p < .03$ for the good/bad scale; $F_{(1,53)} = 2.73$, $p < .11$ for the active/passive scale; and $F_{(1,53)} = 0.52$, $p < .48$ for the supportive/unsupportive scale. As a result, univariate split plot analyses are reported below for all the rating data with the exception of the good/bad scale for which covariance procedures were employed (see Appendix L, Tables X through XX). The means (or adjusted means in the case of the good/bad scale) for the ratings of the positive, neutral, and negative interactions by the depressed psychiatric patients, the depressed psychiatric patients in remission, and the non-depressed, nonpsychiatric controls in the self and other conditions are presented in Appendix M, Tables XXI through XXIII.

TABLE III
 PEARSON PRODUCT-MOMENT CORRELATION COEFFICIENTS
 FOR RATING DATA AND EDUCATION

Scale Ratings	Education
Positive/Negative	.06
Good/Bad	.19*
Strong/Weak	-.03
Active/Passive	.24*
Friendly/Hostile	.14
Dominant/Submissive	.14
Trustful/Distrustful	.11
Accepting/Rejecting	.14
Supportive/Unsupportive	.20*
Kind/Unkind	.13
Warm/Cold	.12

* $p < .05$.

The 3x3x2 split plot analyses of variance (or analysis of covariance in the case of the good/bad scale) on the 11 variables revealed significant group x category interaction effects on three of the 11 variables. These variables were the ratings on the positive/negative scale, $F_{(4,108)} = 2.68, p < .05$; the ratings on the dominant/submissive scale, $F_{(4,108)} = 2.51, p < .05$; and the ratings on the trustful/distrustful scale, $F_{(4,108)} = 2.74, p < .05$. The means for the group x category interaction on each of these variables are shown in Table IV. Summary tables for the analyses of these data are shown in Appendix L. For ratings on the positive/negative scale, simple main effects tests for group indicated no significant differences between groups when viewed at each level of category (see Appendix N, Table XXIV, Part A). Simple main effects tests for category revealed that categories differed significantly at each level of group at the .01 level; $F_{(2,108)} = 147.98$ for the depressed group, 166.59 for the remitted depressives, and 207.38 for the control group (see Appendix N, Table XXIV, Part B). Post hoc tests further revealed that these differences were consistent across groups, such that each group rated negative interactions lower than positive interactions, neutral interactions lower than positive interactions, and negative interactions lower than neutral interactions (see Appendix N, Table XXIV, Part C). These differences, therefore, confirmed the effectiveness of the researcher's experimental manipulation of the category factor.

For ratings on the dominant/submissive scale, simple main effects tests revealed significant differences at the .01 level between groups, but only for the positive category, $F_{(2,54)} = 7.29$ (see Appendix N, Table XXV, Part A). Post hoc tests further revealed that depressed patients

TABLE IV
 MEAN RATINGS FOR THE GROUP X CATEGORY INTERACTIONS

Scale ⁺	Category	Group		
		Depressed	Remitted Depressives	Controls
Positive/Negative	Positive	8.65	8.50	8.83
	Neutral	5.62	5.90	6.38
	Negative	2.65	2.17	1.83
Dominant/Submissive	Positive	4.85	5.94	6.17
	Neutral	6.20	6.37	6.68
	Negative	7.33	7.13	7.35
Trustful/Distrustful	Positive	8.13	7.62	8.28
	Neutral	5.22	5.55	6.27
	Negative	2.78	3.70	3.28

⁺Ratings range from one to nine with "9" representing the most socially desirable (positive) meaning that could be attached to a perception and "1" representing the most socially undesirable (negative) meaning.

differed significantly from controls and from the remitted depressives such that depressed patients rated the positive interactions as more submissive than either the controls or the remitted depressives (see Appendix N, Table XXV, Part B). Simple main effects for category revealed that categories differed significantly at the .01 level at each level of group; $F_{(2,108)} = 26.58$ for depressed patients, 6.32 for remitted depressives, and 6.05 for controls (see Appendix N, Table XXV, Part C). Post hoc tests further revealed that, in contrast to the results of category ratings for the positive/negative scale, the direction of the ratings was not consistent with the intended experimental manipulation of the category factor, and significant differences were not consistent at each level of group (see Table XXV, Part D). In other words, results indicated that the more negative an interaction, the higher or more dominant was the rating, rather than the lower or more submissive as had been planned. In addition, not all post hoc comparisons reached a .05 or .01 level of significance. For differences in category ratings for the depressed group, post hoc comparisons indicated that positive interactions were rated lower or more submissive than the negative and neutral interactions, and neutral interactions significantly more submissive than negative ones. For differences in category ratings for the depressed group in remission, post hoc comparisons revealed that only the mean ratings of the positive category differed significantly (i.e., the interactions were rated more submissive) at the .01 level from those of the negative category. Finally, for differences in category ratings for the control group, post hoc comparisons revealed that only the mean ratings of the positive category differed significantly in a similar manner at the .01 level from those of the negative category. For

both the depressed group in remission and the control group, positive interactions were rated more submissive than the neutral interactions, and neutral interactions more submissive than negative interactions, but these differences did not reach significance at either the .05 or .01 level.

For ratings on the trustful/distrustful scale, simple main effects tests for group revealed only significant differences at the .05 level between groups at the neutral and negative categories; $F_{(2,54)} = 4.18$ for the neutral category and 3.06 for the negative category (see Appendix N, Table XXVI, Part A). Post hoc comparisons further revealed that the depressed psychiatric patients rated the neutral interactions as less trustful than did the nondepressed controls. No significant differences were found between the depressed psychiatric patients in remission and the controls or between the depressed group and the depressed group in remission (see Appendix N, Table XXVI, Part B). At the negative category on the other hand, the depressed group rated the interactions as less trustful than the remitted depressives (see Appendix N, Table XXVI, Part B). Simple main effects tests for category at levels of group were significant at the .01 level; $F_{(2,108)} = 103.50$ for the depressed group, 55.35 for the remitted depressives, and 91.28 for the controls (see Appendix N, Table XXVI, Part C). Post hoc tests further revealed that each group rated negative interactions as significantly less trustful than positive and neutral interactions, and neutral interactions significantly less trustful than positive interactions (see Appendix N, Table XXVI, Part D). The results again confirmed the effectiveness of the experimental procedures for the category factor.

The 3x3x2 split plot analysis of variance (or analysis of covariance in the case of the good/bad scale) for each of the 11 variables also revealed significant group effects on four of the 11 variables. These variables were the ratings on the active/passive scale, $F_{(2,54)} = 3.66$, $p < .05$; the friendly/hostile scale, $F_{(2,54)} = 3.83$, $p < .05$; the accepting/rejecting scale, $F_{(2,54)} = 3.67$, $p < .05$; and the supportive/unsupportive scale, $F_{(2,54)} = 4.61$, $p < .05$ (see Appendix L, Tables X through XX, for all the analyses of variance and covariance summary tables and Appendix M for the group means). Following the significant group effects, Tukey's HSD procedure was used to explore the differences among the three groups. Post hoc comparisons revealed that the significant group effect was due to differences between the ratings of the depressed patients and the control group, such that the depressed group rated all interactions lower (i.e., more passive, hostile, rejecting, and unsupportive) than did the controls (see Table V). For these four variables, post hoc comparisons further revealed that there were no significant differences at the .05 level between the ratings of the depressed group and the remitted depressives or between the remitted depressives and the controls.

The 3x3x2 split plot analyses of variance (or covariance in the case of the good/bad scale) performed on each of the 11 variables revealed significant main effects for category at the .0001 level on all variables. Due to significant group x category interaction effects for ratings on the positive/negative, dominant/submissive, and trustful/distrustful scales, the analyses of these three rating scales have been discussed above. For the remaining category effects, the significant F values are as follows: $F_{(2,108)} = 530.04$ for the good/bad scale, 31.35

TABLE V

POST HOC COMPARISONS FOR GROUP EFFECTS FOR MEAN RATINGS ON THE
ACTIVE/PASSIVE, FRIENDLY/HOSTILE, ACCEPTING/REJECTING,
AND SUPPORTIVE/UNSUPPORTIVE SCALES[†]

Scale	Mean Ratings for the Groups			q's		
	Depressed	Remitted Depressives	Controls	Depressed vs. Controls	Depressed vs. Remitted Depressives	Remitted Depressives vs. Controls
Active/Passive	6.40	6.95	7.29	-3.80*	-2.35	-1.45
Friendly/Hostile	5.69	5.95	6.13	-3.90*	-2.31	-1.60
Accepting/Rejecting	5.29	5.43	5.83	-3.73*	-0.97	-2.76
Supportive/Unsupportive	5.26	5.56	5.98	-4.26*	-1.78	-2.49

[†]Ratings range from one to nine with "9" representing the most socially desirable (positive) meaning that could be attached to a perception and "1" representing the most socially undesirable (negative) meaning.

*p < .05.

for the strong/weak scale, 37.38 for the active/passive scale, 698.14 for the friendly/hostile scale, 577.63 for the accepting/rejecting scale, 388.35 for the supportive/unsupportive scale, 623.85 for the kind/unkind scale, and 604.45 for the warm/cold scale (see Appendix L). Table VI shows the means for these variables. Tukey's HSD procedure was then used to further explore the results.

For ratings on the good/bad, friendly/hostile, accepting/rejecting, supportive/unsupportive, kind/unkind, and warm/cold scales, post hoc comparisons revealed significant differences at the .01 level on all pair-wise comparisons among category levels, and all differences were consistent (see Table VI). In other words, for these variables, negative interactions were rated lower than positive and neutral interactions, and neutral interactions lower than positive interactions. These differences merely confirmed that interactions were perceived as intended.

For ratings on the strong/weak and active/passive scales, post hoc tests revealed that the above findings held for two of the three comparisons (see Table VI). For both variables, the neutral and negative interactions were rated lower than the positive interactions. However, on these two variables, a reverse effect was obtained on the third pair-wise comparison such that the neutral interactions were rated significantly lower than the negative interactions.

Planned t tests were used to compare the depressed psychiatric and nondepressed, nonpsychiatric control groups' ratings of the interactions in each category and in each condition for each of the 11 variables (see Tables VII through IX). As predicted, in the positive category for ratings on the active/passive scale, the depressed group rated the positive interactions significantly lower or more passive than the controls (.05

TABLE VI
POST HOC COMPARISONS FOR CATEGORY MAIN EFFECTS

Scale ⁺	Mean Ratings for the Categories			q's		
	Positive	Neutral	Negative	Positive vs. Negative	Positive vs. Neutral	Neutral vs. Negative
Good/Bad ⁺⁺	8.43	6.19	2.43	45.56**	17.01**	28.55**
Strong/Weak	8.07	6.23	6.82	7.45**	10.97**	-3.52*
Active/Passive	7.79	6.13	6.72	7.74**	12.08**	-4.27*
Friendly/Hostile	8.38	6.53	2.87	51.88**	17.42**	34.46**
Accepting/Rejecting	8.44	5.92	2.19	47.71**	19.24**	28.47**
Supportive/Unsupportive	8.29	6.06	2.45	39.49**	15.08**	24.41**
Kind/Unkind	8.44	6.25	2.53	49.37**	18.30**	31.08**
Warm/Cold	8.39	5.91	2.58	48.99**	20.91**	28.08**

⁺Ratings range from one to nine with "9" representing the most socially desirable (positive) meaning that could be attached to a perception and "1" representing the most socially undesirable (negative) meaning.

⁺⁺Adjusted means are reported for this scale.

* $p < .05$.

** $p < .01$.

TABLE VII

PLANNED COMPARISONS BETWEEN MEAN RATINGS OF THE DEPRESSED
GROUP AND THE CONTROLS IN THE SELF AND OTHER
CONDITIONS FOR THE POSITIVE CATEGORY
ON THE ELEVEN RATING SCALES

Scale ⁺	Condition	Group		t
		Depressed	Controls	
Positive/Negative	Self	8.67	8.83	-0.31
	Other	8.63	8.84	-0.41
Good/Bad ⁺⁺	Self	8.43	8.70	-0.59
	Other	8.61	8.49	0.26
Strong/Weak	Self	8.00	8.33	-0.53
	Other	8.37	8.23	0.23
Active/Passive	Self	6.93	8.23	-2.13*
	Other	7.70	8.20	-0.82
Friendly/Hostile	Self	8.53	8.54	-0.03
	Other	8.37	8.57	-0.53
Dominant/Submissive	Self	4.83	6.00	-2.25*
	Other	4.87	6.34	-2.82**
Trustful/Distrustful	Self	8.00	8.23	-0.44
	Other	8.27	8.33	-0.11
Accepting/Rejecting	Self	8.33	8.73	-0.85
	Other	8.60	8.60	0.00
Supportive/Unsupportive	Self	8.04	8.77	-1.35
	Other	7.83	8.53	-1.29
Kind/Unkind	Self	8.60	8.57	0.07
	Other	8.50	8.57	-0.15
Warm/Cold	Self	8.40	8.60	-0.43
	Other	8.50	8.40	0.22

*Depressed group rated interactions significantly lower than controls,
 $p < .05$.

**Depressed group rated interactions significantly lower than controls,
 $p < .01$.

⁺Ratings range from one to nine with "9" representing the most socially desirable (positive) meaning that could be attached to a perception and "1" representing the most socially undesirable (negative) meaning.

⁺⁺Adjusted means are used for this scale.

TABLE VIII

PLANNED COMPARISONS BETWEEN MEAN RATINGS OF THE DEPRESSED
GROUP AND THE CONTROLS IN THE SELF AND OTHER
CONDITIONS FOR THE NETURAL CATEGORY
ON THE ELEVEN RATING SCALES

Scale ⁺	Condition	Group		t
		Depressed	Controls	
Positive/Negative	Self	5.47	6.67	-2.32*
	Other	5.77	6.10	-0.64
Good/Bad ⁺⁺	Self	5.87	6.83	-2.11*
	Other	6.01	6.29	-0.62
Strong/Weak	Self	5.43	6.33	-1.45
	Other	7.23	6.47	1.22
Active/Passive	Self	5.30	6.87	-2.57**
	Other	5.50	6.80	-2.13*
Friendly/Hostile	Self	6.13	6.97	-2.24*
	Other	6.27	6.70	-1.14
Dominant/Submissive	Self	6.00	6.33	-0.63
	Other	6.40	7.03	-1.21
Trustful/Distrustful	Self	4.97	6.44	-2.80**
	Other	5.47	6.10	-1.20
Accepting/Rejecting	Self	5.23	6.40	-2.49*
	Other	5.80	6.43	-1.34
Supportive/Unsupportive	Self	5.50	6.57	-1.98*
	Other	6.00	6.63	-1.16
Kind/Unkind	Self	5.70	6.77	-2.35*
	Other	6.03	6.70	-1.47
Warm/Cold	Self	5.60	6.40	-1.73
	Other	5.37	6.37	-2.16*

*Depressed group rated interactions significantly lower than controls,
 $p < .05$.

**Depressed group rated interactions significantly lower than controls,
 $p < .01$.

⁺Ratings range from one to nine with "9" representing the most socially desirable (positive) meaning that could be attached to a perception and "1" representing the most socially undesirable (negative) meaning.

⁺⁺Adjusted means are used for this scale.

TABLE IX

PLANNED COMPARISONS BETWEEN MEAN RATINGS OF THE DEPRESSED
GROUP AND THE CONTROLS IN THE SELF AND OTHER
CONDITIONS FOR THE NEGATIVE CATEGORY
ON THE ELEVEN RATING SCALES

Scale ⁺	Condition	Group		t
		Depressed	Controls	
Positive/Negative	Self	2.90	1.90	1.93
	Other	2.40	1.77	1.22
Good/Bad ⁺⁺	Self	2.40	2.33	0.15
	Other	2.11	2.09	0.04
Strong/Weak	Self	6.80	6.03	1.24
	Other	7.17	7.00	0.27
Active/Passive	Self	6.40	5.93	0.77
	Other	6.57	7.70	-1.85*
Friendly/Hostile	Self	2.53	3.23	-1.86*
	Other	2.34	2.80	-1.22
Dominant/Submissive	Self	7.57	6.93	1.23
	Other	7.10	7.77	-1.29
Trustful/Distrustful	Self	2.67	3.67	-1.90*
	Other	2.90	2.90	0.00
Accepting/Rejecting	Self	1.87	2.57	-1.49
	Other	1.93	2.23	-0.64
Supportive/Unsupportive	Self	2.07	3.13	-1.96*
	Other	2.13	2.27	-0.26
Kind/Unkind	Self	2.40	3.37	-2.13*
	Other	1.87	2.13	-0.57
Warm/Cold	Self	2.43	3.03	-1.30
	Other	2.00	2.20	-0.43

*Depressed group rated interactions significantly lower than controls,
 $p < .05$.

⁺Ratings range from one to nine with "9" representing the most socially desirable (positive) meaning that could be attached to a perception and "1" representing the most socially undesirable (negative) meaning.

⁺⁺Adjusted means are used for this scale.

level of significance), but only when the interactions were directed toward them (i.e., self condition only). (See Table VII.) No other variables reflected these predicted results for the positive category; however, for the dominant/submissive scale, the depressed subjects rated the positive interactions significantly lower than controls in both the self and other conditions.

In the neutral category, predicted results were obtained for ratings on the positive/negative, good/bad, friendly/hostile, trustful/distrustful, accepting/rejecting, supportive/unsupportive, and kind/unkind scales (see Table VIII). In other words, depressed psychiatric patients rated the neutral interactions lower, that is less positive, less good, less friendly, less trustful, less accepting, less supportive, and less kind, than the nondepressed, nonpsychiatric controls (.05 level of significance), but only when the interactions were directed toward them. For the active/passive scale, however, the depressed subjects rated the neutral interactions significantly lower (or less active) than the controls in both the self and other conditions; and for the warm/cold scale, the depressed subjects rated the neutral interactions significantly lower (or less warm) than the controls, but only in the other condition. The other variables (ratings on the strong/weak and dominant/submissive scales) did not reflect differences in the ratings between depressed and control subjects in either condition (see Table VIII).

In the negative category, predicted results were obtained for ratings on the friendly/hostile, trustful/distrustful, supportive/unsupportive, and kind/unkind scale (see Table IX). In other words, the depressed group rated the negative categories lower, that is less friendly, less trustful, less supportive, and less kind than the control

group (.05 level of significance), but only when the interactions were directed toward them. The ratings on the other scales did not reflect the predicted results for the negative category; however, a reverse effect from what was predicted was obtained on the active/passive scale (see Table IX). For that scale, the depressed patients rated the negative interactions lower (or less active) than the controls, but only when the interactions were directed toward another person (other condition).

Analysis of Scores on the Dysfunctional Attitude Scale (DAS)

As DAS scores were not significantly correlated with educational level, $r_{(54)} = -.23$, $p < .08$, a univariate analysis of variance on these data was performed rather than analysis of covariance. The univariate analysis revealed a significant main effect for groups at the .0001 level of significance, $F_{(2,54)} = 15.47$ (see Appendix P, Table XXXVI). The mean ratings for the DAS were 159.0 for the depressed group, 105.2 for the remitted depressives, and 113.6 for the controls. Post hoc tests further revealed that the depressed patients' attitudes were significantly more dysfunctional than those of the controls or the remitted depressives (see Appendix P).

CHAPTER VI

DISCUSSION AND CONCLUSIONS

This study was designed to test Beck's hypothesis that depressed persons distort events and experiences negatively and that these distortions occurred within positive (socially desirable), neutral, and/or negative (socially undesirable) interactions. In addition, the question of whether or not these distortions related to interactions that were directed toward the depressed person or to someone else was evaluated.

Eleven scales based on a semantic differential method were used by subjects to rate each interaction. These scales were used to amplify the meaning of a negative cognitive distortion. In addition, a group of formally depressed patients in remission was used to assess whether negative distortions remained following an episode of depression. This study was also designed to see if validity data for the DAS could be provided.

In general, for the socially desirable (positive) interactions, the hypothesis that depressed psychiatric patients would tend to perceive these interactions more negatively than nondepressed, nonpsychiatric controls, but only when the interactions were directed toward them, was not confirmed. Only one rating (active/passive scale) out of 11 showed the hypothesized difference. For the interactions which were neither socially desirable nor undesirable (neutral), the hypothesis that

depressed patients would tend to perceive these interactions more negatively than controls, but only when the interactions were directed toward them, was generally supported. Ratings on seven out of 11 rating scales showed this hypothesized difference. For the socially undesirable (negative) interactions, the hypothesis that depressed patients would tend to perceive these interactions more negatively than controls, but only when the interactions were directed toward them, was partially confirmed. Four ratings out of the 11 showed the hypothesized difference.

The failure to distinguish the depressed group from the control group on their ratings of the positive video-taped interactions may suggest that the two groups do not differ in how they evaluate clearly desirable social interactions. In addition, whether the interactions were directed toward the depressed person or toward someone else did not affect the perceptions. With only one of the 11 ratings (active/passive scale) showing a between group difference for the self condition only and only one rating (dominant/submissive) showing a between group difference regardless of the direction of the interaction, random or false positive findings cannot be excluded for these two results. Thus, this study provides no evidence for the hypothesis that the depressed persons would rate positive interactions lower than the controls, when the interactions were directed toward them.

These findings are in contrast to Guza's (1977) report that depressed subjects rated positive scenes more negatively than nondepressed subjects. However, Guza used audio-tapes, while the current study employed video-tape methods. The latter may have been more potent and/or

believable than audio-taped scenes, leaving less room for the subject to distort.

In addition, this result does not address the question of whether a depressed person is less able to elicit such positive responses from others as a result of reduced interpersonal skills (Lewinsohn, Winstein & Shaw, 1968; Rosenberry, Weiss & Lewinsohn, 1969; Shaffer & Lewinsohn, 1971; Libet & Lewinsohn, 1973). Further, whether depressed persons distort socially positive interactions with the passage of time cannot be evaluated with the current data. However, the results do suggest that initially depressed persons can perceive accurately a clear, direct positive social stimulus.

Depressed patients do distort neutral interactions more negatively compared to controls. Thus, neutral interactions provided the best support of the cognitive theory. Apparently more ambiguous stimuli allow subjects' greater latitude in interpreting the situation. In addition, ratings of these interactions showed that depressed persons in comparison to controls evidenced negative distortions primarily when the interactions were directed toward them. Munoz and Lewinsohn (1977) also provide evidence that the depressed patient's view of the self is the most salient factor of the cognitive triad (i.e., it accounts for more of the depressed person's negative view than does his/her view of the world).

Beck (1976) also suggests that depressed persons interpret events in a personalized way. That is they tend to relate external events to themselves when there is no basis for such a connection. The present data suggest that depressed patients appear to personalize interactions directed toward others less readily than interactions directed at themselves.

Examining the hypothesized versus actual category effects may be helpful in trying to discern the lack of significant findings for ratings of the neutral interactions on the strong/weak, active/passive, and dominant/submissive scales. It was predicted that subjects overall would rate negative and neutral interactions lower than positive interactions and negative interactions lower than neutral ones. These predictions held in each case for all ratings on all scales except the ones mentioned above. On these three scales, results were inconsistent and at times in the reverse order of what was predicted. In regard to the strong/weak and active/passive scales, while the ratings of the negative and neutral interactions were significantly lower than the ones of the positive interactions (as predicted), the neutral interactions were rated significantly lower than the negative ones. This finding was the reverse of what was expected. On the dominant/submissive scale, all ratings were significant but in the reverse order of what was predicted. In other words, the negative interactions were rated higher or more dominant than the neutral and positive ones, and the neutral interactions were rated more dominant than the positive ones. Further analysis of the data on the interaction between group and category effects further qualifies the meaning of these results. The depressed group rated the interactions maintaining the effects as discussed above, that is all differences in the ratings of the interactions were significant and in the reverse order as predicted. However, for the remitted depressives and the controls, all interactions were rated in the reverse direction from the expected results but only the ratings of the negative interactions in comparison to the positive ones were rated significantly higher.

Perhaps for these three scales, subjects were responding to some continuum other than the socially desirable/undesirable continuum assumed to be functioning in this study or some other factor or extraneous variable affected the ratings and predicted results on these scales. For example, only female subjects and male actors in the videotapes were used in this study. Strong/weak and active/passive as well as dominant/submissive are bipolar adjectives which also carry meaning as to masculine and feminine qualities as defined by society, qualities which are presently in a state of flux in regard to their being deemed socially desirable or undesirable. The masculine/feminine connotation of these adjectives may have interfered with their maintaining the predicted valences (negative to positive) which in turn may have affected the outcome of the ratings by these subjects in an inconsistent way.

Partial support for Beck's (1967, 1974) theory was accrued with socially undesirable or negative interactions, since four of the 11 scales distinguished depressed persons from controls when the interactions were directed toward the subject. Depressed persons reported negative interactions directed toward them to be less friendly, less trustful, less supportive, and less kind. Again lack of significance for differences between the two groups in ratings on three of the scales (strong/weak, active/passive, and dominant/submissive) may relate to a failure of those scales to accurately reflect a socially desirable-undesirable continuum. It is difficult to explain why depressed persons did not see these interactions as less positive, less good, less supportive, or less warm. Perhaps because of the clear-cut negative content of the interactions, there was less latitude for distortion, or perhaps these scales were less subtle scales and subject to a tendency

for subjects to respond with a more socially appropriate response. In any event, it does appear that a global description deemed "negative distortion" is clarified by examining the meaning of this distortion to the depressed person. In addition, partial support is found for Munoz and Lewinsohn's (1977) premise that the depressed person's view of self is a more prominent component of Beck's cognitive triad than his or her view of the world.

The finding that depressed persons rate neutral, and to some extent negative, interactions lower, particularly when those interactions are directed toward them, has implications for Beck's theory. In his discussion of the cognitive triad, Beck makes no distinction as to which component plays the more important role in the depressive's negative distortions and consequently his or her depressed affect. The findings of this study, as well as those of Munoz and Lewinsohn (1977), suggest that in regard to two of the components, one's view of the self is a more salient component than one's view of the world. These findings further suggest that Beck's theory may be too general at this point and that further study is warranted to evaluate any differential importance of each component of the triad to negative distortions.

Cognitive theory predicts that negative cognitive distortions would be reduced for the remitted depressed group. The one study addressing this issue, however, found results to the contrary. Lunghi (1977), using ratings of imagined and real-life relationships, found that negative distortions of depressed inpatients continued to exist after their depressive mood had improved. An examination of the criteria which Lunghi used to determine the depressed group initially and improvement of depressive mood, however, calls into question whether Lunghi had a

homogeneous depressed group and whether these depressives were actually in remission at the time of retesting. The criteria which Lunghi used to diagnose depression was not clear but appeared to be a hospital diagnosis with half his sample being depressive neurotics and the other half depressive psychotics. The depressed group, however, did differ significantly from the controls on the Zung depression scale with means of 49.40 and 34.35, respectively. The depressed group was considered to be improved regarding depressive mood based on their readiness to be discharged from the hospital as determined by case reviews during hospital ward meetings. Although Zung scores for depressives at the time of retest were significantly different (as a group) from their previous admission scores, no means were reported and there was no mention as to whether these scores fell into a predetermined "nondepressed" range. There was also no predetermined period in which a depressed person was required to remain in remission, and most patients were retested the week prior to or after discharge from the hospital.

Comparisons of the remitted depressives with both the depressed and the controls resulted in few between group differences. The remitted depressives rated only the positive interactions less dominant and the negative interactions less trustful compared to the depressed group, and there were no significant differences between the ratings of the remitted depressives and the controls. With as many tests as were performed, these significant results could have been due to chance. Thus, the current methods find no differences between the remitted depressives and either the depressed or control groups. On the other hand, the symptoms, ratings, and past history do distinguish the depressives from the controls. Recalling that the depressed group often perceived interactions

more negatively than controls, it is difficult to explain the lack of significant differences between the remitted depressives and the other groups, particularly the depressed group. Perusal of the mean ratings of all three groups, however, seems to offer an explanation. For ratings on neutral interactions in the self condition only, there is a consistent although nonsignificant trend on all 11 scales. Depressed patients rated neutral interactions lower than the remitted depressives and controls, and the remitted depressives rated the interactions lower than the controls. Thus, in each of these cases the remitted depressives rated the interactions somewhere in between the depressed group and the controls.

Examining the mean ratings of each group over all categories and conditions, one finds the same nonsignificant trend for 10 out of the 11 scales (the trend did not hold for the positive/negative scale). These results suggest that the negative cognitive distortions of remitted depressives may have changed somewhat, but not enough to distinguish them significantly from a clinically depressed group. On the other hand, the data also suggest that the remitted depressives' distortions are not severe enough to distinguish them from controls. In that the depressive symptomatology has been alleviated in the case of the remitted depressives, one might conclude that negative cognitive distortions take longer to "extinguish" than depressive symptomatology or that these cognitive distortions persist in a less severe form, perhaps continuing to predispose the remitted depressive to states of depressive mood and behavior.

This study also provided validity data for Weissman's (1977) Dysfunctional Attitude Scale (DAS). This scale was developed to measure the extent to which persons hold assumptions or beliefs that may

predispose them to depression (depressogenic schemas). The DAS items were developed from cognitive theory which specifies the silent assumptions found in the thinking of a depressed person. This study provided discriminative validity and experimental support for Beck's notion that depressed persons evidence depressogenic schemas which are the source of their depression. Depressed persons evidenced dysfunctional attitudes to a greater extent than both the controls and the remitted depressives, while the controls and the remitted depressives did not differ significantly. In terms of Beck's theory, these results suggest that the depressogenic schemas are activated while the depressed person is clinically depressed and are not activated when the depression is alleviated.

Results obtained from the scores on the Dysfunctional Attitude Scale and ratings of social interactions for the depressed group are phenomena supportive of each other. That is, if one holds beliefs that predispose one to depression (as measured by the DAS) then one would be expected to rate social interactions more negatively. How is it then that the remitted depressives differed from the depressed group in scores on the DAS, but did not differ significantly from that group in ratings of social interactions? It appears that the two tasks measure different phenomena. That is, the DAS measures beliefs or attitudes while the ratings of social interactions measures a thought process triggered by a specific stimulus situation. Beck (1976) postulates that depressive cognitions and symptoms are a result of depressogenic schemas activated in specific situations. Remitted depressives may endorse different cognitive schema than acutely symptomatic depressed persons by self report as long as no specific situations trigger depressogenic

cognitions. However, when these persons are again confronted with specific situations, the former depressogenic schemas may be activated and cognitive distortions may ensue. In any event, further examination of cognitive processes during specific stimulus situations is warranted as they may differ from those processes operating when someone fills out a self-report attitude scale.

Of the findings on the socio-demographic questionnaire, one finding was of particular interest, that of marital status. Examination of these data suggests that the depressed patients were less often involved in ongoing interpersonal relationships than the control group, with the depressed group in remission falling somewhere in between these two groups. These results are supportive of the work of Lewinsohn and his associates which suggest that depressed persons display deficiencies in interpersonal skills. In that the depressed group in remission seems to fall in between the depressed and control groups, one may infer that as the depression is alleviated (or as depressogenic schemas are corrected) the depressed person will also show an improvement in interpersonal skills.

Two cautions in generalizing the results of the present study need to be mentioned. First of all, it is important to keep in mind that the subjects used in this study were all females and the interactions which were rated by these subjects contained all male actors. One need be careful in generalizing the results to male depressives and to social interactions with other females. Secondly, a perusal of the significant mean ratings between depressed and control subjects shows that although the mean differences are significant, there is little actual difference of the ratings when viewed on a scale from one to nine. While

statistical differences may be significant, actual reality-based differences may not be.

This study has only touched on the periphery of examining negative distortions of the depressed patient. The study has suggested one way, ratings of simulated social interactions, to observe and measure these distortions in cognitions. At the present time there are only a few instruments which purport to measure cognitions, although these are not considered to be satisfactory (Lane, Bessai & Bard, 1975; Mahoney, 1977). One instrument, the Cognitive Response Test (Watkins & Rush, 1978) is presently being developed, but needs further validation. Further work in developing an effective instrument to assess cognitions is warranted.

The study also points out the need to examine further the changing cognitions or schema in the depressed person whose depressive symptomatology has been alleviated. The need to examine this group's cognitions in regard to specific stimulus situations has been cited.

And finally, this study examined only negative distortions in depressed persons. One does not know whether these distortions would be specific to depression or to psychiatric disorders in general. Further study in this area is also warranted.

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APPENDIXES

APPENDIX A

SOCIO-DEMOGRAPHIC QUESTIONNAIRE

Demographic Information

Please fill out the following information by placing check marks on the appropriate line. Then if you have any questions please ask the person giving you the form.

Sex: Male Female

Race: Black Latin American
 Caucasian Other (please specify) _____

Age in Years: _____

Marital Status: Single Widowed
 Married Separated/Living Apart
 Cohabitation Divorced

Number of Children: _____

Religion: Atheist Catholic
 Agonistic Jewish
 Protestant Other (please specify) _____

Last Grade Completed: less than 7 years school
 7 12 (high school grad)
 8 13
 9 14
 10 15
 11 16 (college grad)
 more than 16

Occupation:

Self	Spouse	Father	Mother	
_____	_____	_____	_____	Housewife
_____	_____	_____	_____	Student
_____	_____	_____	_____	Unskilled Blue Collar (manual, laborer, waitress, etc.)
_____	_____	_____	_____	Skilled Blue Collar (mechanic, carpenter, policeman, etc.)
_____	_____	_____	_____	Clerk, Secretary, Office Worker
_____	_____	_____	_____	Executive or Own Business
_____	_____	_____	_____	Professional
_____	_____	_____	_____	None

Employment: (Do NOT answer if housewife or student)

Self	Spouse	Father	Mother	
_____	_____	_____	_____	Employed in a regular job
_____	_____	_____	_____	Employed, but in a part-time job
_____	_____	_____	_____	Marginally employed (lawn cutting, baby-sitting)
_____	_____	_____	_____	Unemployed
_____	_____	_____	_____	Retired

APPENDIX B

SCRIPT FOR VIDEOTAPES

Self Condition

1. (Narrative. Appears on the screen and is read.)

This interaction occurs between you and your boss. You have just completed a large project, and the boss has asked to speak with you. Rate the interaction according to how you perceive the boss's response to you.

"I appreciated the job you did on your last assignment. It was a difficult task, but you organized it well. I liked your ideas-- they were creative and stimulating. --Really got people going. I've noticed too that you work well with other employees. --Always willing to give others an encouraging word or a bit of direction if they needed it. Keep it up, and I'm sure it won't be too long until you get a promotion."

2. (Narrative. Appears on the screen and is read.)

This interaction occurs between you and your boss. The boss has called you into his office. Rate the interaction according to how you perceive your boss's response to you.

"I don't know what's wrong with you lately. You're the last one to the office in the morning and the first one to leave. In addition, you've had difficulty paying attention to your work and you're making several serious mistakes. I don't know--first one thing and then the other. It just seems that you're not that invested in your work anymore. I tell you what though, unless you plan on making some changes soon, well--I don't know. What do you suggest we do with you?"

3. (Narrative. Appears on the screen and is read.)

This interaction occurs between you and your boss. You are meeting with him to discuss your job assignment. Rate the interaction according to how you perceive your boss's response to you.

"I got the report on your last assignment. I haven't had a chance to read it yet, but as soon as I do, we'll get together and go over some of the major points. --I know that you're anticipating a promotion when you finish your next project. Just remember--it's a tough one and you still have a lot of work to do. Some help from your immediate supervisor might come in handy and save you work in the long run. If you have any changes in the plans for the proposed project, let me know and we'll discuss them at our next meeting."

4. (Narrative. Appears on the screen and is read.)

This interaction takes place between you and your husband (or close personal friend). Your husband is getting ready to go to work, and he's commenting on the plans you've made for the evening. Rate the

interaction according to how you perceive your husband's response to you.

"Look--I don't think we'll be able to go out tonight as we planned. I've had some business come up, and I'll have to stay late at the office. I tell you what, though. Let's plan to go out either tomorrow or the next night to make up for it. What do you say? You pick the restaurant--and if you want maybe a show too. Just remember--not too expensive, we're on a budget."

5. (Narrative. Appears on the screen and is read.)

This interaction takes place between you and your husband (or close personal friend). You both have just finished the evening meal and are sitting on the porch. Rate the interaction according to how you perceive your husband's response to you.

"You know--you're really a special person. It's not just that you're attractive and fun to be with--you're kind and considerate and conscientious about the things that you do. I've enjoyed the times we've had together. Oh--I know we've had bad times as well as the good ones--but with you, it's worth the effort to try and work out our difficulties. I'm hoping that we can look forward to many more happy years together."

6. (Narrative. Appears on the screen and is read.)

This interaction takes place between you and your husband (or close personal friend). Your husband has just come home from work and walks into the living room where you are sitting. Rate the interaction according to how you perceive your husband's response to you.

"I just wish that one of these days I'd come home and find the house clean and dinner on the table. What do you do all day anyway? With all the time you have you shouldn't have any problems getting the housework done. I guess there's no need in my even bringing it up. You haven't changed since we've been married, why should I expect it now? Once a slob--always a slob! By the way--it wouldn't hurt you either to lose ten pounds."

7. (Narrative. Appears on the screen and is read.)

This interaction takes place between you and a friend. The new office furniture which you picked out has arrived and you've asked your friend to come see it. Rate the interaction according to how you perceive your friend's response to you.

"I see you got your new office furniture and decorations . . . (next lines said with a grimace) Brother!--that's some color! Are you sure that's what you ordered? It's not that I don't like it, mind you, it's just that well--don't you think that something in a little softer color--more conservative maybe--might have been more appropriate? Well--I guess everybody has their own taste--it's just

that well--I guess that after they carpet the place it'll look more 'office-like.' I sure wish you hadn't ordered that floor lamp. Oh, hmmm, to each his own."

8. (Narrative. Appears on the screen and is read.)

This interaction takes place between you and a friend. You are telling your friend about the garden you're planning for the summer and asking his advice. Rate the interaction according to how you perceive your friend's response to you.

"You want to make sure your garden is the right size for you. If it's too large--it will demand too much of your time and it will become work rather than enjoyment. Have you decided what you want to grow? People usually plant tomatoes, green beans, okra, and squash--and then whatever else they enjoy. Just remember, a garden is a commitment and must be tended to every day. You can't leave it for a week and expect it to be flourishing when you get back. Why don't you sketch out on a piece of paper how you want your plot to look. Then we'll have something to go by."

9. (Narrative. Appears on the screen and is read.)

This interaction takes place between you and a friend. Your friend recently had heard the results of a cooking contest which you had entered. Rate the interaction according to how you perceive your friend's response to you.

"Heard you won the cooking contest last week--Congratulations! Ellen said there were over a hundred entries in each of the twelve divisions and that the competition was really tough. You really took the honors by winning five of the twelve divisions. I also saw where the paper carried pictures of several of your dishes--I must say you did a fantastic job arranging them--very colorful and appetizing. Hope you plan on entering again next year. I'm sure you'll do just as well or better."

Other Condition

1. (Narrative. Appears on the screen and is read.)

This interaction occurs between a woman and her boss. She has just completed a large project, and the boss has asked to speak with her. Rate the interaction according to how you perceive the boss's response to her.

"I appreciated the job you did on your last assignment. It was a difficult task, but you organized it well. I like your ideas--they were creative and stimulating. --Really got people going. I've noticed too that you work well with other employees. --Always willing to give others an encouraging word or a bit of direction if they needed it. Keep it up, and I'm sure it won't be too long until you get a promotion.

2. (Narrative. Appears on the screen and is read.)

This interaction occurs between a woman and her boss. The boss has called her into his office. Rate the interaction according to how you perceive the boss's response to her.

"I don't know what's wrong with you lately. You're the last one to the office in the morning and the first one to leave. In addition, you've had difficulty paying attention to your work and you're making several serious mistakes. I don't know--first one thing and then the other. It just seems that you're not that invested in your work anymore. I tell you what though, unless you plan on making some changes soon, well--I don't know. What do you suggest we do with you?"

3. (Narrative. Appears on the screen and is read.)

This interaction occurs between a woman and her boss. She is meeting with him to discuss her present job assignment. Rate the interaction according to how you perceive the boss's response to her.

"I got the report on your last assignment. I haven't had a chance to read it yet, but as soon as I do we'll get together and go over some of the major points. --I know that you're anticipating a promotion when you finish your next project. Just remember--it's a tough one and you still have a lot of work to do. Some help from your immediate supervisor might come in handy and save you work in the long run. If you have any changes in the plans for the proposed project, let me know and we'll discuss them at our next meeting."

4. (Narrative. Appears on the screen and is read.)

This interaction takes place between a woman and her husband (or close personal friend). Her husband is getting ready to go to work, and he's commenting on the plans that she's made for the evening.

Rate the interaction according to how you perceive the husband's response to her.

"Look--I don't think we'll be able to go out tonight as we planned. I've had some business come up, and I'll have to stay late at the office. I tell you what, though. Let's plan to go out either tomorrow or the next night to make up for it. What do you say? You pick the restaurant--and if you want, maybe a show too. Just remember--not too expensive, we're on a budget."

5. (Narrative. Appears on the screen and is read.)

This interaction takes place between a woman and her husband (or close personal friend). They have both just finished the evening meal and are sitting on the porch. Rate the interaction according to how you perceive the husband's response to her.

"You know--you're really a special person. It's not just that you're attractive and fun to be with--you're kind and considerate and conscientious about the things that you do. I've enjoyed the times we've had together. Oh--I know we've had bad times as well as the good ones--But with you, it's worth the effort to try and work out our difficulties. I'm hoping that we can look forward to many more happy years together."

6. (Narrative. Appears on the screen and is read.)

This interaction takes place between a woman and her husband (or close personal friend). Her husband has just come home from work and walks into the living room where she is sitting. Rate the interaction according to how you perceive the husband's response to her.

"I just wish that one of these days I'd come home and find the house clean and dinner on the table. What do you do all day anyway? With all the time you have, you shouldn't have any problems getting the housework done. I guess there's no need in my even bringing it up. You haven't changed since we've been married, why should I expect it now? Once a slob--always a slob! By the way--it wouldn't hurt you either to lose ten pounds."

7. (Narrative. Appears on the screen and is read.)

This interaction takes place between a woman and her friend. The new office furniture which she picked out has arrived, and she's asked her friend to come see it. Rate the interaction according to how you perceive the friend's response to her.

"I see you got your new office furniture and decorations . . . (next lines said with a grimace) Brother!--that's some color! Are you sure that's what you ordered? It's not that I don't like it, mind you, it's just that well--don't you think that something in a little softer color--more conservative maybe--might have been more appropriate? Well--I guess everybody has their own taste--it's just

that well--I guess that after they carpet the place it'll look more 'office-like.' I sure wish you hadn't ordered that floor lamp. Oh, hmmm, to each his own."

8. (Narrative. Appears on the screen and is read.)

This interaction takes place between a woman and her friend. She is telling her friend about the garden she's planning for the summer and asking his advice. Rate the interaction according to how you perceive the friend's response to her.

"You want to make sure your garden is the right size for you. If it's too large--it will demand too much of your time and it will become work rather than enjoyment. Have you decided what you want to grow? People usually plant tomatoes, green beans, okra, and squash--and then whatever else they enjoy. Just remember, a garden is a commitment and must be tended to every day. You can't leave it for a week and expect it to be flourishing when you get back. Why don't you sketch out on a piece of paper how you want your plot to look. Then we'll have something to go by."

9. (Narrative. Appears on the screen and is read.)

This interaction takes place between a woman and her friend. Her friend recently heard the results of a cooking contest which she had entered. Rate the interaction according to how you perceive the friend's response to her.

"Heard you won the cooking contest last week--Congratulations! Ellen said there were over a hundred entries in each of the twelve divisions and that the competition was really tough. You really took the honors by winning five of the twelve divisions. I also saw where the paper carried pictures of several of your dishes--I must say you did a fantastic job arranging them--very colorful and appetizing. Hope you plan on entering again next year. I'm sure you'll do just as well or better."

APPENDIX C

RATING FORM--SELF CONDITION

APPENDIX D

RATING FORM--OTHER CONDITION

APPENDIX E

INSTRUCTIONS FOR RATING INTERACTIONS--

SELF CONDITION

Verbal Instructions

Now let's look at the rating sheets you'll be using and the instructions for filling them out. (Pass out a copy of the Rating Sheet and the Example.)

Here's a copy of the rating sheet which you will use for each interaction. As you see the rating sheet contains 11 scales. Each rating scale is made up of two adjectives with opposite meanings, like "negative, positive." The adjectives are placed with one on each end of the scale. A scale can be rated then, for example, from "extremely negative" to "extremely positive," or from "extremely good" to "extremely bad," etc. by placing an "X" on one side of the scale or the other and using one of the categories labeled either "extremely," "very," "quite," "slightly," or "neutral."

Look at how the adjectives are arranged. For the negative/positive scale, on the left-hand side, "extremely" denotes the very most negative a response could possibly be. "Very" is less negative than "extremely" but more negative than "quite." "Quite" is less negative than "very" but more negative than "slightly," and "neutral" is less negative than "slightly." The same holds for the positive end of the scale. "Extremely" denotes the very most positive a response could possibly be. "Very" is less positive than "extremely" but more positive than "quite." "Quite" is less positive than "very" but more positive than "slightly." "Neutral" is less positive than "slightly."

You are to rate each interaction using all of the 11 scales following the rating procedure which I have outlined.

Any questions? (Pause and answer any questions.)

Now let's look at an example. (Go over the Example and Instructions sheet. See next page.)

Example and Instructions

You and your brother have finished dinner. You have asked your brother to help you with the dishes. Rate the interaction according to how you perceive (or interpret) your brother's response to you.

Brother: "I will in just a minute."

If you perceive the response to you as very negative mark an "X" as follows:

extremely
very
quite
slightly
neutral
slightly
quite
very
extremely

negative ___ : X : ___ : ___ : ___ : ___ : ___ : ___ : ___ : positive

If you perceive the response to you as quite positive mark an "X" as follows:

extremely
very
quite
slightly
neutral
slightly
quite
very
extremely

negative ___ : ___ : ___ : ___ : ___ : ___ : X : ___ : ___ : positive

If you perceive the response to you as neutral mark an "X" as follows:

extremely
very
quite
slightly
neutral
slightly
quite
very
extremely

negative ___ : ___ : ___ : ___ : X : ___ : ___ : ___ : ___ : positive

Follow this procedure for each of the 11 scales.

Remember to rate each scale for each interpretation. Rate them according to how you perceive or interpret the response, rather than how the response makes you feel.

APPENDIX F

INSTRUCTIONS FOR RATING INTERACTIONS--

OTHER CONDITION

Verbal Instructions

Now let's look at the rating sheets you'll be using and the instructions for filling them out. (Pass out a copy of the Rating Sheet and the Example.)

Here's a copy of the rating sheet which you will use for each interaction. As you see the rating sheet contains 11 scales. Each rating scale is made up of two adjectives with opposite meanings, like "negative, positive." The adjectives are placed with one on each end of the scale. A scale can be rated then, for example, from "extremely negative" to "extremely positive," or from "extremely good" to "extremely bad," etc. by placing an "X" on one side of the scale or the other and using one of the categories labeled either "extremely," "very," "quite," "slightly," or "neutral."

Look at how the adjectives are arranged. For the negative/positive scale, on the left-hand side, "extremely" denotes the very most negative a response could possibly be. "Very" is less negative than "extremely" but more negative than "quite." "Quite" is less negative than "very" but more negative than "slightly," and "neutral" is less negative than "slightly." The same holds for the positive end of the scale. "Extremely" denotes the very most positive a response could possibly be. "Very" is less positive than "extremely" but more positive than "quite." "Quite" is less positive than "very" but more positive than "slightly." "Neutral" is less positive than "slightly."

You are to rate each interaction using all of the 11 scales following the rating procedure which I have outlined.

Any questions? (Pause and answer any questions.)

Now let's look at an example. (Go over the Example and Instructions sheet. See next page.)

Example and Instructions

A sister and brother have finished dinner. The sister has just asked her brother to help her with the dishes. Rate this interaction according to how you perceive (or interpret) the brother's response to his sister.

Brother: "I will in a minute."

If you perceive the brother's response to his sister as very negative mark an "X" as follows:

	<u>extremely</u>		<u>very</u>		<u>quite</u>		<u>slightly</u>		<u>neutral</u>		<u>slightly</u>		<u>quite</u>		<u>very</u>		<u>extremely</u>	
negative	_	:	X	:	_	:	_	:	_	:	_	:	_	:	_	:	_	positive

If you perceive the brother's response to his sister as quite positive mark an "X" as follows:

	<u>extremely</u>		<u>very</u>		<u>quite</u>		<u>slightly</u>		<u>neutral</u>		<u>slightly</u>		<u>quite</u>		<u>very</u>		<u>extremely</u>	
negative	_	:	_	:	_	:	_	:	_	:	_	:	X	:	_	:	_	positive

If you perceive the brother's response to his sister as neutral mark an "X" as follows:

	<u>extremely</u>		<u>very</u>		<u>quite</u>		<u>slightly</u>		<u>neutral</u>		<u>slightly</u>		<u>quite</u>		<u>very</u>		<u>extremely</u>	
negative	_	:	_	:	_	:	_	:	X	:	_	:	_	:	_	:	_	positive

Follow this procedure for each of the 11 scales.

Remember to rate each scale for each interaction. Rate them according to how you perceive or interpret the response, rather than how the response makes you feel.

APPENDIX G

NARRATIVE FOR THE RECRUITMENT OF SUBJECTS
FOR THE STUDY

Hello, my name is Diane Hoehn Hyde. I am a doctoral student in clinical psychology. I work with Dr. John Rush and Dr. John Watkins in the Outpatient Psychiatry Clinic at University Hospital and with Dr. Bob Schlottman at Oklahoma State University in the Department of Psychology. I am conducting a study on the perception of social interactions, that is how people interpret and evaluate interactions directed toward them (or in the OTHER condition, "directed toward others"). Right now I'm surveying some of the people who come through the outpatient psychiatry clinic. I'd like to describe the study to you and see if you'd be willing to participate. (Wait for subject's agreement to go on. Terminate discussion if subject indicated no desire to participate in the study.)

The study involves first, asking you some questions about the problem which brings (brought) you to the clinic and having you fill out a short questionnaire. (In the case of nonpsychiatric subjects "questions about yourself" was substituted for "the problem which brings you to the clinic"). Then the study involves your watching some videotapes of social interactions directed toward you. (OTHER condition--"directed toward another person.") After each interaction, you'll be asked to rate the interaction on several rating scales. After you've rated the last interaction, I'll ask you to fill out several questionnaires concerning information about yourself such as age, sex, education, etc., background information about previous therapy and a questionnaire dealing with attitudes and beliefs. All in all it will take approximately 45 to 60 minutes to complete the study.

There are several things about the study that I want to emphasize. First of all, the benefits of the study for you will be helping us to further understand how people perceive or interpret social interactions. There are no known physical or psychological risks for you in rating the interactions or filling out the questionnaires. Secondly, all your ratings and questionnaire information will be kept confidential. Thirdly, I want to emphasize that this is a volunteer study, that is you do not have to participate. If you say yes or no, it will not affect your treatment here at all. (This latter statement made if applicable.) Also, you may stop at any time during the study if you wish.

Do you have any questions?

Would you be willing to participate?

(If the person said yes, the consent form was then signed, information sheet filled out, and a Beck Inventory administered if the subject had not already filled one out that day. If the person was unable to participate at that time, an appointment for the study was arranged and the above information was reviewed before the experiment began at the appointed time.)

APPENDIX H

CONSENT FORM

Authorization for Use of Procedures for
Investigational Purposes at the
University of Oklahoma Health
Sciences Center

I, _____ voluntarily consent to participate in the following investigation Perception of Social Interactions,
(Subject) (Title of Study)
the purpose of which has been explained to me by _____.
(Name of Investigator)

The risks as well as benefits which could result have been explained to me as follows:

Benefits: Furtherance of our understanding of how people perceive or interpret social interactions.

Risks: There are no known risks involved in rating the social interactions or filling out the questionnaires. The researcher will take every precaution consistent with the best experimental procedures.

I understand that I will be asked to rate videotaped interactions directed toward myself* on various scales. I will also be asked to fill out several questionnaires. I understand the questionnaires and my ratings will not be made available to anyone without my written authorization. I understand all information will be stored and reported anonymously; that is, I will not be identified by name in any reports of this data. I understand that participating in this study will not affect my access to treatment nor type of treatment (for patients).

I understand that:

1. By signing this consent form I have not waived any of my legal rights or released this institution from liability for negligence.
2. I may revoke my consent and withdraw from this study at any time.
3. Should any problems arise during this study, I may take them to the Director of Research Administration, Room 362, Biomedical Sciences Building, Telephone No. 271-2090.

(Signature of Responsible Investigator)

(Signature of Subject)

(Signature of Witness)

(Date)

*For OTHER condition: toward another person.

APPENDIX I

INSTRUCTIONS--SELF CONDITION

Now let's talk about the interactions which you will be rating.

When someone says something to us, we usually respond in two ways at approximately the same time. One, we perceive or interpret the meaning of what that person is saying as it relates to us; and two, we usually respond with a feeling which accompanies our interpretations.

In this study, we are interested in how you perceive or interpret another's responses toward you. Instead of asking people to respond to you in a "live" situation, we have taped nine responses which occur in various social situations. As the tape describes each situation, imagine that you are actually sitting in the room with the person on the screen and that you are involved in what is happening. For example, if the interaction is described as occurring between you and your husband, imagine that the person on the screen is your husband (whether in fact you are married or not) and that he is conveying his message to you. After the person talks to you, you are to rate the interaction according to how you perceive or interpret that person's response to you. You will be given approximately two minutes to rate the interaction on the rating forms which will be given to you. When you finish, turn to the next rating sheet and wait for the next interaction to begin.

Any questions?

(At this time the researcher will go over the instructions for rating the interactions and the example, see Appendix H.)

Any questions?

Now we are ready to begin with your rating the interactions.

Remember, as each person comes on the screen, imagine that you are actually in the room with this person and that you are interacting with him. Whatever the person says will be spoken directly to you. Now we will begin. (Video-tape machine will then be turned on and the researcher will move to the back of the room.)

APPENDIX J

INSTRUCTIONS--OTHER CONDITION

Now let's talk about the interactions which you will be rating.

When someone says something to another person, the person that receives the message (the receiver) usually responds in two ways at approximately the same time. One, the receiver perceives or interprets the meaning of what that person is saying as it relates to him or her; and two, the receiver usually responds with a feeling which accompanies his or her interpretations.

In this study, we are interested in how you perceive or interpret a response directed toward another person. Instead of asking people to interact in a "live" situation, we have taped nine interactions which occur in various social situations. As the tape describes each situation, imagine that you are in the room with the two people, and that you are observing what is happening. For example, if the interaction takes place between a woman and her husband, imagine that you are in the room observing what is going on. Let's say the husband has just spoken to his wife. After he speaks, you are to rate the interaction according to how you perceive or interpret the husband's response to his wife. You will be given approximately two minutes to rate the interaction on the rating forms which will be given to you. When you finish, turn to the next sheet and wait for the next interaction to begin.

Any questions?

(At this time the researcher will go over the instructions for rating the interactions and the example, see Appendix I.)

Any questions?

Now we are ready to begin with your rating the interactions.

Remember, each interaction occurs between two other people, not yourself, in the room with you. Whatever the person says is not directed toward you, but to the other person on the screen. Now we will begin. (Video-tape machine will then be turned on and the researcher will move to the back of the room.)

APPENDIX K

QUESTIONS FOR POST-EXPERIMENTAL INTERVIEW

1. FOR THE SELF CONDITION ONLY: In general, were you able to imagine yourself interacting with each person?
2. FOR THE OTHER CONDITION ONLY: In general, did it seem that the interaction occurred with others or to you personally? At any time, did an interaction seem as if it were happening to you?
3. In general, were you able to relate to the interactions? Did they have meaning for you?
4. Did some interactions affect you more than others? If so, which ones?
5. Do your feelings differ now from the ones you were having before you participated in the study? If so, how?
6. How do you feel now?
7. Do you have any questions of me?

APPENDIX L

ANALYSES OF VARIANCE OR COVARIANCE OF THE
EFFECTS OF DEPRESSION, CONDITION AND
CATEGORY ON THE RATING OF SOCIAL
INTERACTIONS FOR THE ELEVEN
RATING VARIABLES

TABLE X
ANOVA FOR THE RATINGS ON THE POSITIVE/NEGATIVE SCALE

Source	SS	df	MS	F
A (Group)	0.834	2	0.417	0.26
C (Condition)	0.554	1	0.554	0.35
AC	0.356	2	0.178	0.11
Subjects W. Group Error	86.039	54	1.593	
B (Category)	1257.421	2	628.711	517.65**
AB	13.026	4	3.257	2.68*
BC	0.847	2	0.423	0.35
ABC	2.646	4	0.661	0.54
B x Subjects W. Group Error	131.425	108	1.217	

* $p < .05$.

** $p < .0001$.

TABLE XI
ANACOVA FOR RATINGS ON THE GOOD/BAD SCALE

Source	SS	df	MS	F
A (Group)	1.185	2	0.593	0.58
C (Condition)	0.082	1	0.082	0.08
AC	2.079	2	1.040	1.02
Covariate ⁺	4.942	1	4.942	4.83*
Subjects W. Group Error	54.213	53	1.023	
B (Category)	1103.510	2	551.755	530.04**
AB	9.557	4	2.389	2.30
BC	0.544	2	0.272	0.26
ABC	4.857	4	1.214	1.17
B x Subjects W. Group Error	112.425	108	1.041	

⁺Education.

* $p < .03$.

** $p < .0001$.

TABLE XII
ANOVA FOR RATINGS ON THE STRONG/WEAK SCALE

Source	SS	df	MS	F
A (Group)	2.568	2	1.284	0.53
C (Condition)	6.950	1	6.950	2.88
AC	5.424	2	2.712	1.12
Subjects W. Group Error	130.284	54	2.413	
B (Category)	105.786	2	52.893	31.35*
AB	5.920	4	1.480	0.88
BC	5.436	2	2.718	1.61
ABC	6.694	4	1.673	0.99
B x Subjects W. Group Error	182.238	108	1.687	

* $p < .0001$.

TABLE XIII
ANOVA FOR RATINGS ON THE ACTIVE/PASSIVE SCALE

Source	SS	df	MS	F
A (Group)	24.125	2	12.062	3.66*
C (Condition)	9.036	1	9.036	2.74
AC	0.268	2	0.134	0.04
Subjects W. Group Error	178.091	54	3.298	
B (Category)	85.721	2	42.861	37.38**
AB	6.238	4	1.560	1.36
BC	4.197	2	2.098	1.83
ABC	10.425	4	2.606	2.27
B x Subjects W. Group Error	123.826	108	1.147	

* $p < .05$.

** $p < .0001$.

TABLE XIV
ANOVA FOR RATINGS ON THE FRIENDLY/HOSTILE SCALE

Source	SS	df	MS	F
A (Group)	5.829	2	2.915	3.83*
C (Condition)	2.371	1	2.371	3.11
AC	0.730	2	0.365	0.48
Subjects W. Group Error	41.139	54	0.762	
B (Category)	945.797	2	472.899	698.14**
AB	5.712	4	1.428	2.11
BC	0.525	2	0.263	0.39
ABC	0.559	4	0.140	0.21
B x Subjects W. Group Error	73.156	108	0.677	

* $p < .05$.

** $p < .001$.

TABLE XV
ANOVA FOR RATINGS ON THE DOMINANT/SUBMISSIVE SCALE

Source	SS	df	MS	F
A (Group)	11.109	2	5.555	3.18*
C (Condition)	1.887	1	1.887	1.08
AC	3.937	2	1.968	1.13
Subjects W. Group Error	94.213	54	1.744	
B (Category)	78.861	2	39.430	33.93**
AB	11.663	4	2.916	2.51*
BC	1.670	2	0.835	0.72
ABC	3.156	4	0.789	0.68
B x Subjects W. Group Error	125.495	108	1.162	

* $p < .05$.

** $p < .0001$.

TABLE XVI
ANOVA FOR RATINGS ON THE TRUSTFUL/DISTRUSTFUL SCALE

Source	SS	df	MS	F
A (Group)	9.698	2	4.849	3.56*
C (Condition)	0.039	1	0.039	0.03
AC	3.428	2	1.714	1.26
Subjects W. Group Error	73.651	54	1.364	
B (Category)	678.713	2	339.357	244.69**
AB	15.173	4	3.793	2.74*
BC	0.846	2	0.423	0.31
ABC	1.540	4	0.385	0.28
B x Subjects W. Group Error	149.782	108	1.387	

* $p < .05$.

** $p < .0001$.

TABLE XVII
ANOVA FOR RATINGS ON THE ACCEPTING/REJECTING SCALE

Source	SS	df	MS	F
A (Group)	9.244	2	4.622	3.67*
C (Condition)	0.049	1	0.049	0.04
AC	1.658	2	0.829	0.66
Subjects W. Group Error	67.965	54	1.259	
B (Category)	1188.185	2	594.093	577.53**
AB	4.021	4	1.005	0.98
BC	0.890	2	0.445	0.43
ABC	0.146	4	0.036	0.04
B x Subjects W. Group Error	111.098	108	1.029	

* $p < .05$.

** $p < .0001$.

TABLE XVIII

ANOVA FOR RATINGS ON THE SUPPORTIVE/UNSUPPORTIVE SCALE

Source	SS	df	MS	F
A (Group)	15.816	2	7.908	4.61*
C (Condition)	0.717	1	0.717	0.42
AC	1.653	2	0.827	0.48
Subjects W. Group Error	92.566	54	1.714	
B (Category)	1042.213	2	521.107	388.35**
AB	1.980	4	0.495	0.37
BC	1.918	2	0.959	0.71
ABC	1.937	4	0.484	0.36
B x Subjects W. Group Error	144.921	108	1.342	

* $p < .01$.** $p < .0001$.

TABLE XIX
ANOVA FOR RATINGS ON THE KIND/UNKIND SCALE

Source	SS	df	MS	F
A (Group)	7.771	2	3.886	2.81
C (Condition)	5.114	1	5.114	3.70
AC	1.273	2	0.636	0.46
Subjects W. Group Error	74.624	54	1.382	
B (Category)	1071.871	2	535.935	623.85*
AB	6.416	4	1.604	1.87
BC	4.297	2	2.148	2.50
ABC	2.421	4	0.605	0.70
B x Subjects W. Group Error	92.780	108	0.859	

* $p < .0001$.

TABLE XX
ANOVA FOR RATINGS ON THE WARM/COLD SCALE

Source	SS	df	MS	F
A (Group)	6.211	2	3.106	2.03
C (Condition)	3.110	1	3.110	2.03
AC	0.218	2	0.109	0.07
Subjects W. Group Error	82.710	54	1.532	
B (Category)	1020.197	2	510.099	604.45*
AB	7.693	4	1.923	2.28
BC	1.129	2	0.565	0.67
ABC	1.495	4	0.374	0.44
B x Subjects W. Group Error	91.142	108	0.844	

* $p < .0001$.

APPENDIX M

MEAN RATINGS OF POSITIVE, NEUTRAL AND NEGATIVE
SOCIAL INTERACTIONS IN THE SELF AND OTHER
CONDITIONS FOR DEPRESSED PATIENTS,
REMITTED DEPRESSIVES, AND NON-
PSYCHIATRIC CONTROLS ON THE
ELEVEN RATING VARIABLES

TABLE XXI

MEAN RATINGS OF POSITIVE SOCIAL INTERACTIONS IN THE
 SELF AND OTHER CONDITIONS FOR DEPRESSED PATIENTS,
 REMITTED DEPRESSIVES, AND CONTROLS ON
 THE ELEVEN RATING SCALES

Scale ⁺	Condition	Group		
		Depressed	Remitted Depressives	Controls
Positive/Negative	Self	8.67	8.57	8.83
	Other	8.63	8.43	8.84
Good/Bad ⁺⁺	Self	8.43	8.43	8.70
	Other	8.61	7.90	8.49
Strong/Weak	Self	8.00	8.00	8.33
	Other	8.37	7.47	8.23
Active/Passive	Self	6.93	7.93	8.23
	Other	7.70	7.77	8.20
Friendly/Hostile	Self	8.53	8.37	8.54
	Other	8.37	7.94	8.57
Dominant/Submissive	Self	4.83	6.20	6.00
	Other	4.87	5.67	6.34
Trustful/Distrustful	Self	8.00	7.73	8.23
	Other	8.27	7.50	8.33
Accepting/Rejecting	Self	8.33	8.23	8.73
	Other	8.60	8.17	8.60
Supportive/Unsupportive	Self	8.04	8.47	8.77
	Other	7.83	8.10	8.53
Kind/Unkind	Self	8.60	8.43	8.57
	Other	8.50	7.97	8.57
Warm/Cold	Self	8.40	8.33	8.60
	Other	8.50	8.13	8.40

⁺Ratings range from one to nine with "9" representing the most socially desirable (positive) meaning that could be attached to a perception and "1" representing the most socially undesirable (negative) meaning.

⁺⁺Adjusted means are reported for this scale.

TABLE XXII

MEAN RATINGS OF NEUTRAL SOCIAL INTERACTIONS IN THE SELF
AND OTHER CONDITIONS FOR DEPRESSED PATIENTS,
REMITTED DEPRESSIVES, AND CONTROLS ON
THE ELEVEN RATING SCALES

Scale ⁺	Condition	Group		
		Depressed	Remitted Depressives	Controls
Positive/Negative	Self	5.47	5.73	6.67
	Other	5.77	6.07	6.10
Good/Bad ⁺⁺	Self	5.87	5.90	6.83
	Other	6.01	6.23	6.29
Strong/Weak	Self	5.43	5.83	6.33
	Other	7.23	6.07	6.47
Active/Passive	Self	5.30	5.80	6.87
	Other	5.50	6.50	6.80
Friendly/Hostile	Self	6.13	6.67	6.97
	Other	6.27	6.43	6.70
Dominant/Submissive	Self	6.00	6.30	6.33
	Other	6.40	6.43	7.03
Trustful/Distrustful	Self	4.97	5.50	6.44
	Other	5.47	5.60	6.10
Accepting/Rejecting	Self	5.23	5.80	6.40
	Other	5.80	5.83	6.43
Supportive/Unsupportive	Self	5.50	5.87	6.57
	Other	6.00	5.80	6.63
Kind/Unkind	Self	5.70	6.37	6.77
	Other	6.03	5.93	6.70
Warm/Cold	Self	5.60	6.03	6.40
	Other	5.37	5.67	6.37

⁺Ratings range from one to nine with "9" representing the most socially desirable (positive) meaning that could be attached to a perception and "1" representing the most socially undesirable (negative) meaning.

⁺⁺Adjusted means are reported for this scale.

TABLE XXIII

MEAN RATINGS OF NEGATIVE SOCIAL INTERACTIONS IN THE SELF
AND OTHER CONDITIONS FOR DEPRESSED PATIENTS,
REMITTED DEPRESSIVES, AND CONTROLS ON
THE ELEVEN RATING SCALES

Scale ⁺	Condition	Group		
		Depressed	Remitted Depressives	Controls
Positive/Negative	Self	2.90	2.30	1.90
	Other	2.40	2.03	1.77
Good/Bad ⁺⁺	Self	2.40	2.43	2.33
	Other	2.11	3.20	2.09
Strong/Weak	Self	6.80	6.80	6.03
	Other	7.17	7.10	7.00
Active/Passive	Self	6.40	6.50	5.93
	Other	6.57	7.20	7.70
Friendly/Hostile	Self	2.53	3.40	3.23
	Other	2.34	2.90	2.80
Dominant/Submissive	Self	7.57	6.93	6.93
	Other	7.10	7.33	7.77
Trustful/Distrustful	Self	2.67	3.77	3.67
	Other	2.90	3.63	2.90
Accepting/Rejecting	Self	1.87	2.34	2.57
	Other	1.93	2.20	2.23
Supportive/Unsupportive	Self	2.07	2.57	3.13
	Other	2.13	2.53	2.27
Kind/Unkind	Self	2.40	2.97	3.37
	Other	1.87	2.43	2.13
Warm/Cold	Self	2.43	3.00	3.03
	Other	2.00	2.83	2.20

⁺ Ratings range from one to nine with "9" representing the most socially desirable (positive) meaning that could be attached to a perception and "1" representing the most socially undesirable (negative) meaning.

⁺⁺ Adjusted means are reported for this scale.

APPENDIX N

SIMPLE MAIN EFFECTS AND POST HOC COMPARISONS
FOR THE GROUP X CATEGORY INTERACTIONS FOR
RATINGS ON THE POSITIVE/NEGATIVE,
DOMINANT/SUBMISSIVE AND
TRUSTFUL/DISTRUSTFUL
SCALES

TABLE XXIV

SIMPLE MAIN EFFECTS AND POST HOC COMPARISONS FOR THE
GROUP X CATEGORY INTERACTION FOR RATINGS ON
THE POSITIVE/NEGATIVE SCALE⁺

A. Simple Main Effects for Group at Levels of Category				
Source	SS	df	MS	F
SS _A at b ₁ ⁺	1.119	2	0.56	0.42
SS _A at b ₂	6.015	2	3.01	2.24
SS _A at b ₃	6.726	2	3.36	2.51

B. Simple Main Effects for Category at Levels of Group				
Source	SS	df	MS	F
SS _B at a ₁	360.195	2	180.10	147.98*
SS _B at a ₂	405.490	2	202.74	166.59*
SS _B at a ₃	504.763	2	252.38	207.38*

C. Post Hoc Comparisons for Category at Levels of Group Using Tukey's HSD Test ⁺⁺						
Level of Group	Category			q's		
	Positive	Neutral	Negative	Positive vs. Negative	Positive vs. Neutral	Neutral vs. Negative
Depressed	8.65	5.62	2.65	24.32*	12.28*	12.04*
Remitted Depressives	8.50	5.90	2.17	25.66*	10.54*	15.12*
Controls	8.83	6.67	1.90	28.09*	8.76*	19.34*

* $p < .01$.

⁺A = Group (a₁ = Depressed Psychiatric Patients, a₂ = Depressed Psychiatric Patients in Remission, a₃ = Nondepressed, Nonpsychiatric Controls).

B = Category (b₁ = Positive, b₂ = Neutral, b₃ = Negative).

⁺⁺Ratings range from one to nine with "1" indicating an extremely negative rating and "9" indicating an extremely positive rating.

TABLE XXV

SIMPLE MAIN EFFECTS AND POST HOC COMPARISONS FOR
THE GROUP X CATEGORY INTERACTION FOR RATINGS
ON THE DOMINANT/SUBMISSIVE SCALE⁺

<u>A. Simple Main Effects for Group at Levels of Category</u>						
Source	SS	df	MS	F		
SS _A at b ₁ ⁺	19.782	2	9.89	7.29**		
SS _A at b ₂	2.408	2	1.20	0.89		
SS _A at b ₃	0.583	2	0.29	0.21		
<u>B. Post Hoc Comparisons for Group at the Positive Category Using Tukey's HSD Test⁺⁺</u>						
Category	Group			q's		
	Depressed	Remitted Depres- sives	Con- trols	Depressed vs. Controls	Depressed vs. Remitted Depressives	Remitted Depressives vs. Controls
Positive	4.85	5.94	6.17	-5.07**	-4.19*	-0.88
<u>C. Simple Main Effects for Category at Levels of Group</u>						
Source	SS	df	MS	F		
SS _B at a ₁	61.762	2	30.88	26.58**		
SS _B at a ₂	14.691	2	7.35	6.32**		
SS _B at a ₃	14.071	2	7.04	6.05**		
<u>D. Post Hoc Comparisons for Category at Levels of Group Using Tukey's HSD Test⁺⁺</u>						
Level of Group	Category			q's		
	Positive	Neutral	Negative	Positive vs. Negative	Positive vs. Neutral	Neutral vs. Negative
Depressed	4.85	6.20	7.33	-10.30**	-5.60**	-4.69**
Remitted Depressives	5.94	6.37	7.13	-4.94**	-1.78	-3.15
Controls	6.17	6.68	7.35	-4.90**	-2.12	-2.78

*p < .05.

TABLE XXV (Continued)

**p < .01.

⁺A = Group (a₁ = Depressed Psychiatric Patients, a₂ = Depressed Psychiatric Patients in Remission, a₃ = Nondepressed, Nonpsychiatric Controls).

B = Category (b₁ = Positive, b₂ = Neutral, b₃ = Negative).

⁺⁺Ratings range from one to nine with "1" indicating an extremely submissive rating and "9" indicating an extremely dominant rating.

TABLE XXVI

SIMPLE MAIN EFFECTS AND POST HOC COMPARISONS FOR
THE GROUP X CATEGORY INTERACTION FOR RATINGS
ON THE TRUSTFUL/DISTRUSTFUL SCALE[†]

A. Simple Main Effects for Group at Levels of Category						
Source	SS	df	MS	F		
SS _A at b ₁ ⁺	4.900	2	2.45	1.78		
SS _A at b ₂	11.539	2	5.77	4.18*		
SS _A at b ₃	8.431	2	4.22	3.06*		

B. Post Hoc Comparisons for Group at the Neutral and Negative Category Levels Using Tukey's HSD Test ⁺⁺						
Category	Group			q's		
	Depressed	Remitted Depres- sives	Con- trols	Depressed vs. Controls	Depressed vs. Remitted Depressives	Remitted Depressives vs. Controls
Neutral	5.22	5.55	6.27	-4.00*	-1.26	-2.74
Negative	2.78	3.70	3.28	-1.90	-3.50*	-1.60

C. Simple Main Effects for Category at Levels of Group						
Source	SS	df	MS	F		
SS _B at a ₁	287.119	2	143.56	103.50**		
SS _B at a ₂	153.543	2	76.77	55.35**		
SS _B at a ₃	253.223	2	126.61	91.28**		

D. Post Hoc Comparisons for Category at Levels of Group Using Tukey's HSD Test ⁺⁺						
Level of Group	Category			q's		
	Positive	Neutral	Negative	Positive vs. Negative	Positive vs. Neutral	Neutral vs. Negative
Depressed	8.13	5.22	2.78	20.32**	11.05**	9.27**
Remitted Depressives	7.62	5.55	3.70	14.89**	7.86*	7.03**
Controls	8.28	6.27	3.28	18.99*	7.63*	11.36*

TABLE XXVI (Continued)

* $p < .05$.

** $p < .01$.

⁺A = Group (a_1 = Depressed Psychiatric Patients, a_2 = Depressed Psychiatric Patients in Remission, a_3 = Nondepressed, Nonpsychiatric Controls).

B = Category (b_1 = Positive, b_2 = Neutral, b_3 = Negative).

⁺⁺Ratings range from one to nine with "1" indicating an extremely distrustful rating and "9" indicating an extremely trustful rating.

APPENDIX O

ANALYSIS OF RESPONSES TO THE SOCIO-
DEMOGRAPHIC QUESTIONNAIRE

TABLE XXVII

ANALYSIS OF VARIANCE OF AGES FOR DEPRESSED PATIENTS,
REMITTED DEPRESSIVES, AND CONTROLS

Source	SS	df	MS	F
Group ⁺ (BG)	281.20	2	140.60	1.08
W. Cell (WG)	7435.40	57	130.45	
Total	7716.60	59		

⁺G₁ = Depressed Psychiatric Patients.
⁺G₂ = Depressed Psychiatric Patients in Remission.
⁺G₃ = Nondepressed, Nonpsychiatric Controls.

TABLE XXVIII

DEPRESSED PATIENTS', REMITTED DEPRESSIVES', AND
CONTROLS' MARITAL STATUS⁺

Marital Status	Group			X ²⁺⁺
	Depressed	Remitted Depressives	Controls	
Single	3 (2.33)	3 (2.33)	1 (2.33)	25.36*
Married/Cohabitation	4 (9.67)	9 (9.67)	16 (9.67)	
Widowed	4 (1.67)	1 (1.67)	0 (1.67)	
Separated/Living Apart/Divorced	9 (2.58)	7 (2.85)	3 (2.85)	

⁺Expected frequencies in parentheses.

⁺⁺X² using correction for continuity.

*p < .01.

TABLE XXIX

ANALYSIS OF VARIANCE AND POST HOC COMPARISONS OF
NUMBER OF CHILDREN FOR DEPRESSED PATIENTS,
REMITTED DEPRESSIVES, AND CONTROLS

Source	A. ANOVA Summary Table			MS	F
	SS	df			
Group ⁺ (BG)	21.70	2		10.85	3.56*
W. Cell (WG)	173.70	57		3.05	
Total	195.40	59			

B. Post Hoc Comparisons for Mean Number of Children Using Tukey's HSD Procedure					
Mean Ratings for Groups			q's		
			Depressed vs. Controls	Depressed vs. Remitted Depressives	Remitted Depressives vs. Controls
Depressed	Remitted Depressives	Controls			
2.75	1.50	1.45	3.33	3.21	0.13

* $p < .05$.

⁺G₁ = Depressed Psychiatric Patients.
G₂ = Depressed Psychiatric Patients in Remission.
G₃ = Nondepressed, Nonpsychiatric Patients.

TABLE XXX
 DEPRESSED PATIENTS', REMITTED DEPRESSIVES', AND
 CONTROLS' RELIGIOUS PREFERENCE⁺

Religious Preference	Group			χ^2 ⁺⁺
	Depressed	Remitted Depressives	Controls	
Agnostic	1 (1.67)	3 (1.67)	1 (1.67)	2.92
Protestant	15 (13.67)	14 (13.67)	12 (13.67)	
Catholic	3 (4.00)	2 (4.00)	7 (4.00)	
Other (includes Atheist)	1 (1.67)	1 (0.67)	0 (0.67)	

⁺Expected frequencies in parentheses.

⁺⁺ χ^2 using correction for continuity.

TABLE XXXI

ANALYSIS OF VARIANCE AND POST HOC COMPARISONS OF
YEARS OF EDUCATION FOR DEPRESSED PATIENTS,
REMITTED DEPRESSIVES, AND CONTROLS

Source	A. ANOVA Summary Table			MS	F
	SS	df			
Group ⁺ (BG)	56.70	2		28.35	6.01*
Group (WG)	268.95	57		4.72	
Total	325.65	59			

B. Post Hoc Comparisons for Mean Years of Education Using Tukey's HSD Procedure					
Mean Ratings for Groups			q's		
			Depressed vs. Controls	Depressed vs. Remitted Depressives	Remitted Depressives vs. Controls
Depressed	Remitted Depressives	Controls			
12.00	13.80	14.25	-4.59*	-0.91	-3.67**

* $p < .01$.

** $p < .05$.

⁺G₃ = Nondepressed, Nonpsychiatric Controls.

G₂ = Depressed Psychiatric Patients in Remission.

G₁ = Depressed Psychiatric Patients.

TABLE XXXII

DEPRESSED PATIENTS', REMITTED DEPRESSIVES',
AND CONTROLS' OCCUPATION⁺

Occupation	Group			χ^2 ⁺⁺
	Depressed	Remitted Depressives	Controls	
Professional Persons	4 (6.33)	7 (6.33)	8 (6.33)	8.39
Office Workers and Skilled Workers	5 (7.00)	5 (7.00)	11 (7.00)	
Unskilled Workers and Housewives	8 (4.67)	5 (4.67)	1 (4.67)	
Student and No Occupation	3 (2.00)	3 (2.00)	0 (2.00)	

⁺Expected frequencies in parentheses.

⁺⁺ χ^2 using correction for continuity.

TABLE XXXIII

DEPRESSED PATIENTS', REMITTED DEPRESSIVES', AND
CONTROLS' HUSBANDS' OCCUPATION⁺

Occupation	Group			χ^2 ⁺⁺
	Depressed	Remitted Depressives	Controls	
Professional Persons	2 (5.67)	6 (6.67)	10 (6.33)	5.38
Office Workers and Skilled Workers	11 (8.19)	9 (8.67)	6 (9.15)	
Unskilled Workers	4 (2.52)	2 (2.67)	2 (2.81)	
Student	0 (0.63)	1 (0.67)	1 (0.70)	

⁺Expected frequencies in parentheses.

⁺⁺ χ^2 using correction for continuity.

TABLE XXXIV

DEPRESSED PATIENTS', REMITTED DEPRESSIVES', AND
CONTROLS' FATHERS' OCCUPATION⁺

Occupation	Group			X^{2++}
	Depressed	Remitted Depressives	Controls	
Professional Persons	2 (6.63)	8 (7.00)	11 (7.37)	6.36
Office Workers and Skilled Workers	11 (8.53)	8 (9.00)	8 (9.47)	
Unskilled Workers	5 (2.84)	3 (3.00)	1 (3.16)	

⁺Expected frequencies in parentheses.

⁺⁺ X^2 using correction for continuity.

TABLE XXXV

DEPRESSED PATIENTS', REMITTED DEPRESSIVES', AND
CONTROLS' MOTHERS' OCCUPATION⁺

Occupation	Group			X^{2++}
	Depressed	Remitted Depressives	Controls	
Professional Persons	3 (3.33)	5 (3.33)	2 (3.33)	1.03
Office Workers and Skilled Workers	2 (3.00)	3 (3.00)	4 (3.00)	
Unskilled Workers and Housewives	15 (13.67)	12 (13.67)	14 (13.67)	

⁺Expected frequencies in parentheses.

⁺⁺ X^2 using correction for continuity.

APPENDIX P

ANALYSIS OF VARIANCE AND POST HOC COMPARISONS OF
SCORES ON THE DYSFUNCTIONAL ATTITUDE SCALE
FOR DEPRESSED PATIENTS, REMITTED
DEPRESSIVES, AND CONTROLS IN
THE SELF AND OTHER
CONDITIONS

TABLE XXXVI

ANALYSIS OF VARIANCE AND POST HOC COMPARISONS OF SCORES
ON THE DYSFUNCTIONAL ATTITUDE SCALE FOR DEPRESSED
PATIENTS, REMITTED DEPRESSIVES, AND CONTROLS
IN THE SELF AND OTHER CONDITIONS⁺

Source	A. ANOVA Summary Table			MS	F
	SS	df			
A (Group)	33507.73	2		16753.87	15.47**
B (Condition)	232.07	1		232.07	0.21
A x B	138.13	2		69.07	0.06
W. Cell	58479.80	54		1082.96	

B. Post Hoc Comparisons of Mean Scores Using Tukey's HSD Procedure ⁺					
Group			q's		
Depressed	Remitted Depressives	Controls	Depressed vs. Controls	Depressed vs. Remitted Depressives	Remitted Depressives vs. Controls
159.0	105.2	113.6	6.17*	7.31*	-1.14

* $p < .01$.

** $p < .0001$.

⁺The higher the score (or mean) the more dysfunctional the attitudes.

VITA²

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