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University of Massachusetts Amherst

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INTERPERSONAL BEHAVIOR IN DEPRESSION:
A SOCIAL SKILLS ANALYSIS

A Dissertation Presented

By

WILLIAM ERNEST HALEY

Submitted to the Graduate School of the
University of Massachusetts in partial fulfillment
of the requirements for the degree of

DOCTOR OF PHILOSOPHY

February 1982

Psychology

INTERPERSONAL BEHAVIOR IN DEPRESSION:

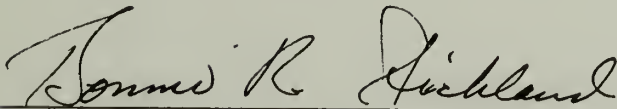
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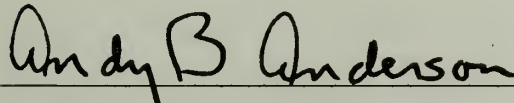
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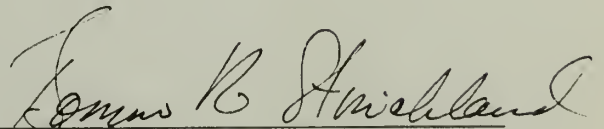
Bonnie R. Strickland, Chairperson of Committee

Patricia A. Wisocki, Member

Melinda Novak, Member



Andy B. Anderson, Outside Member



Bonnie R. Strickland, Chairperson
Department of Psychology

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ABSTRACT

Interpersonal Behavior in Depression:

A Social Skills Analysis

(February 1982)

William Ernest Haley, B.A., Southern Illinois University

M.S., Ph.D., University of Massachusetts

Directed by: Professor Bonnie R. Strickland

The present study was an investigation of social skills deficits among clinically depressed women. Subjects were ten depressed inpatients, ten nondepressed psychiatric inpatients, and ten normal women. Subjects responded to twenty eight standardized situations in a role-play format, and were instructed to give the most effective response they could make. Categories sampled a wide variety of kinds of social situations, including positive assertion, negative assertion, and initiating social contact. Role-played responses were audiotaped, and were reliably rated by two judges. Subjects also rated their own social skills.

Results indicated that depressed and psychiatric control patients had marked problems in social skill compared to normals, ranging across nearly all categories of social behavior assessed. However, no differences in skill were found between the three groups on two of the three behaviors comprising the negative assertion area. Depressed patients' difficulties in negative assertion were characterized by passivity, while psychiatric control patients were most likely to be overly

aggressive. Depressed patients did not differ from psychiatric control patients on any of the judges' ratings of social skill.

No significant differences were found between the groups on measures of latency and length of response, and rate of speech. Depressives were the most self-critical group.

Subjects described the role-play situations as highly realistic, and judges' and subjects' ratings of social skill correlated significantly. Judges' ratings of social skill correlated highly with educational attainment and vocabulary, but covariance analyses controlling for these variables replicated the above results.

Results suggest that social skills deficits are not specific to depression, but are characteristic of severe psychopathology in general. Depressed patients may have a more passive interpersonal style than non-depressed patients. Negative assertion seems to be the least important as a deficit, while the ability to engage in successful positive social interaction appears critical. Finally, it is suggested that prospective, longitudinal research is the next important research step in addressing the question of the extent to which social skills deficits predispose to psychiatric disorders, versus the extent to which they are consequences of disorder.

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C H A P T E R I

INTRODUCTION

Depressed mood is an affective state which most of us have experienced to some extent at one time or another. More serious depressions are also disturbingly common, and costly, to our society. Especially in such areas as genetic and biochemical factors, cognitive variables, and the efficacy of pharmacological and psychological treatments, our scientific understanding of depression is rapidly progressing.

This paper will review the symptoms and characteristics of depression, and the evidence that depression is a major social problem. One approach to the study of depression, which has received relatively little attention in the research literature--interpersonal processes in depression--will be reviewed. Several interpersonal perspectives will be noted, and the role of social skills deficits in depression will be especially emphasized. It will be argued that social skills deficits may underlie a number of other interpersonal processes which have been described in depression. A research project aimed at illuminating the role of social skill in depression will be reported.

Beck's (1967) description of the signs and symptoms of depression stands as authoritative. Besides the sad mood, the "down in the dumps" feeling the layman calls depression, a number of other complaints cluster together to form depression as a syndrome. Depressed individuals often report sleep disturbances, such as insomnia, hypersomnia, or persistent early morning awakening. Appetite is often decreased, with

a lack of interest in food, and weight loss without efforts to diet. Some depressives report increased appetite and weight gain, although this is thought to be more frequently associated with less severe depressions. Low energy level, lethargy, and slow, "retarded" movement may be apparent, although some depressives appear more agitated. Weakness, fatigue, and somatic complaints such as constipation or diffuse pains frequently occur. The depressed individual may show a great decrease in his/her enjoyment of previously pleasurable activities, such as sex, to the point of anhedonia. Social interaction is greatly decreased, and may be actively avoided and seen as aversive. Difficulties in concentration and memory, and distractability, are also frequent complaints.

Cognitive correlates of depression, as initially described by Beck (1967), have been thoroughly documented and increasingly studied in recent years (i.e., Abramson, Garber, Edwards, and Seligman, 1978; Krantz and Hammen, 1979). Depressed individuals are typically self-critical and self-punitive, sometimes to a delusional extent. They report feeling helpless, hopeless, and guilty. Thoughts of suicide may become obsessive to the depressed person, who sees few alternatives available to him/her.

It is impossible to fully quantify the costs, to individuals and to society, related to depression. Some suggestion, however, of the enormity of the problem of depression is made by examining recent epidemiological research, and studies of the psychosocial correlates of depression.

In a series of publications, Weissman and her colleagues (Weissman

and Myers, 1978; Weissman, Myers, and Harding, 1978) have reported the results of a major epidemiological study of psychiatric disorders in the general community. The authors used clearly defined Research Diagnostic Criteria (RDC), as presented by Spitzer and his colleagues (Spitzer, Endicott, and Robins, 1978), to define depression and other psychiatric disorders. The authors also used a well-defined semistructured interview, the Schedule for Affective Disorders and Schizophrenia (SADS), reported by Endicott and Spitzer (1978), to gather their data. Prior research has demonstrated that the use of the RDC and SADS allows for reliable psychiatric diagnoses (Endicott and Spitzer, 1978), in contrast to past systems of psychiatric diagnosis, such as DSM-II, which have yielded unsatisfactory levels of reliability (Zigler and Phillips, 1961a; Ward, Beck, Mendelsohn, Mock, and Erbaugh, 1962).

Weissman and her colleagues report an overall prevalence of 4.3% of major depressive disorders in the general community. An additional 2.6% of the sample met diagnostic criteria for minor depressive disorder. Rates were even higher for women, especially for those over 45 years of age, or unmarried. Lifetime rates of major depression were 20%, and 26.7% of the sample reported a history of either major or minor depression. These figures compare with less than 1% prevalence of schizophrenia, and a 1.4% prevalence for phobias. Generalized anxiety and alcoholism were the other diagnoses with significant prevalence, but these did not rival the frequency of depression.

Brown and Harris (1978) have also recently completed a major epidemiological study of depression, in Great Britain. Subjects were women in the community who had not sought psychiatric treatment. They

found that 17% of their sample had had a clear major depressive episode within the year preceding their interviews, and that an additional 19% had experienced "borderline" symptoms of depression.

Several statistics indicate that these high rates of depression are likely related to very great social costs. Secunda, Katz, Friedman, and Schuyler (1973), in a special National Institute of Mental Health report, estimated the economic cost of depression in the United States as between 1.3 and 4 billion dollars per year. These authors also note that depression accounts for 75% of the psychiatric hospitalizations in the United States. The lifetime risk of suicide among individuals with major depression is estimated at 15% (Bothwell and Weissman, 1977). Suicide is a major cause of death in this country, with at least 25,000 deaths per year. Experts in the field estimate that the actual rate of suicide may be much higher than reported rates (Schneidman, Farberow, and Litman, 1970). Linehan (1981) has also summarized the evidence that depression is related to increased risk for "parasuicide," or unsuccessful suicide attempts. Such behaviors are extremely costly, both in a financial (i.e., necessitating hospitalizations), and a personal sense.

Weissman and Myers (1980) also report data from the previously noted study of individuals in the general community that further indicate some of the hidden costs of depression. Very few of the individuals they diagnosed as depressed had ever seen a psychiatrist, psychologist, or other mental health professional for treatment. However, they were extremely high users of non-psychiatric medical resources for problems not identified as emotional. Sixty-five percent

of these depressed individuals had seen a non-psychiatric physician six or more times over the preceding year, while only 27% of individuals who received no RDC psychiatric diagnosis utilized such services to extent. Fordyce (1976) has also noted the high percentage of patients with a primary complaint of a chronic pain problem who have depression as a major component of their pain problem. With the United States spending about 9% of its Gross National Product on health care, and with this percentage increasing yearly (Freeland and Schendler, 1981), it is evident that such problems of overutilization of medical services by depressed people could be quite costly.

It has also been demonstrated that depressed patients show marked difficulties in functioning in a variety of social roles, including work and parenting (Weissman and Paykel, 1974). Depressed women are at increased risk to physically abuse their children (Becker, 1974), and Resnick (1969) suggests that parental child murderers are often depressed women.

Besides the magnitude of depression as a public health problem, another justification for psychological study of depression is its relative neglect by social scientists. Before the 1970s, most research published on depression came either from biologically or psychodynamically oriented psychiatrists (Becker, 1974). Over the past several years, an increasing number of studies of depression have appeared in psychological journals. Most of this research, however, has been concerned with intrapsychic or cognitive variables, such as cognitive distortion or attributional style in depression. Interpersonal processes in depression have been systematically studied in only a few projects.

In the next section, interpersonal theories of depression will be reviewed from four major perspectives: psychodynamic, systems, interpersonal reactions to depression, and social skills.

C H A P T E R I I
L I T E R A T U R E R E V I E W

In reviewing the past literature on interpersonal aspects of depression, one encounters a number of problems. In particular, no reliable, generally accepted definition or diagnostic criteria for "depression" were available until quite recently. Since depressed patients are quite a heterogeneous group, it is difficult to know which research, or theory, is relevant to which subtypes of depression. Because of the lack of specificity and attention to depressive subgroups in the literature, depression will be used as a general term.

Sullivan (1963) is often identified as having been a critical force in emphasizing the interpersonal nature of human adaptation. He stated, "The field of psychiatry is the field of interpersonal relations, under any and all circumstances in which these relations exist ...a personality can never be isolated from the complex of interpersonal relations in which the person lives and has his being." (Sullivan, 1963, p. 10)

From such a perspective, studying the nature of social interaction is a critical factor in understanding the psychological health and personality of the individual. Thus, not only must the social scientist focus on intrapsychic factors, such as feelings, cognitions, or wishes: patients' social relationships are also of critical importance.

Although much of the psychodynamic literature of depression focuses mainly on intrapsychic factors, several psychodynamic theorists wrote

explicitly of interpersonal aspects of depression. In others, the interpersonal perspective is alluded to but not emphasized as primary. Much of this psychodynamic literature is based on rather unsystematic examination of small numbers of cases. Often these writers have failed to specify the populations of depressives they have worked with, and have written about depression as a unitary syndrome. Thus, by many modern scientific criteria, their value is limited. However, these ideas have strongly influenced clinical practice, and subsequent formulations of depression. In fact, the similarity between some classic psychodynamic writings, and more recent, empirically based work, is striking. It seems that it is important to consider the historical base for current thinking on depression, if only to retain some humility for the lack of fundamental advances in our theoretical understanding.

Abraham's (1911, 1916) writing was among the first systematic psychodynamic exploration of depression. His work is best known for its emphasis on hostility in depression. The depressive is described as having highly ambivalent object relations, with a repression of the element of hatred. This hostility is unacceptable to the individual, and arouses guilt feelings, which then produce depression. Freud, in Mourning and Melancholia (1917), expanded this theme, but added the notion of "introjection" as a mechanism in the process. The depressive's ego identifies with the significant other, and incorporates it. Thus, the hostility is experienced as a reproach against the depressive's own ego.

Besides these complex intrapsychic processes, a number of

interpersonal components are identified in these classic papers. Abraham stressed not only hostility, but also a narcissistic incapacity to love others. Freud agreed that the depressive is unable to develop a mature love of others because of their ambivalence and self-love.

Another interpersonal theme from these papers is the "sadistic" or hostile element of depression. Both Abraham and Freud noted the annoying quality of depressive symptoms. Freud also described the incongruity between the depressive's self-criticism and self-deprecation, and their interpersonal behavior:

...they are far from evincing towards those around them the attitude of humility and submissiveness that would alone befit such worthless people. On the contrary, they make the greatest nuisance of themselves, and always seem as though they felt slighted and had been treated with great injustice. (Freud, 1917, p. 248; cited in Becker, 1974)

In some of Freud's later work (1923), as his theory expanded to include the "death instinct," the notion that depressives were lacking in external expression of aggression became apparent. Traditional psychodynamic psychotherapy has often included an encouragement of the release an expression of aggression, based in part on Freud's statement that:

It is remarkable that the more a man checks his aggressiveness toward the exterior the more severe-- that is aggressive--he becomes in his ego-ideal. (Freud, 1923, p. 54; cited in Becker, 1974)

Rado's (1928) contribution to interpersonal theories of depression centers on dependency. Rado states that depressives are extremely dependent on others for approval, and that their self-esteem is largely regulated by gratification from others. Depressives were said to

"cling to their objects like leeches," and to punish themselves in the hope that their penance would lead to love from others.

Chodoff (1973) has thoroughly reviewed the theory and research linking depression to dependency. Chodoff describes the guilt and anger often found in depression as secondary to undue dependency on the approval of others for self-esteem. One group of depressives is said to rely on ingratiating to win favor from others, while another subgroup is described as more obsessive, and relies on high (unrealistic) levels of performance to please others.

Another interpersonal theme which has emerged in the psychodynamic literature is of the depressed individual as manipulative. Bonime (1966) has been especially prominent among such writers. He has noted, as had Abraham and Freud, the annoying, aversive quality of many depressive symptoms. Bonime writes of depression as an active practice, an everyday mode of interacting with others. Not only is depression an expression of hostility--it is also a means of exploiting the sympathy of others. In a similar vein, Adler (1956) has described depression as a form of "disability compensation," or excuse from facing life squarely. Depressive expressions of helplessness, and self-recriminations, are seen as attempts to escape from social obligation by overemphasizing one's disabilities. Vegetative symptoms such as decreased appetite and sleep disturbance are also seen as part of the interpersonal communication of inability to shoulder life's responsibilities. Adler also described the "melancholic" as lacking in "social interest," or appropriate concern for the well-being of his/her fellows.

Bemporad (1978) has explicitly discussed a notion which has implicitly been apparent in much of the psychodynamic literature--the inability of depressives to consciously experience, and appropriately express, anger. Bemporad observes that depressed patients often respond to what most individuals would deem anger-arousing situations with self-blame, hurt feelings, and excusing others' actions. He states that anger implies a sense of autonomy and independence that the depressive lacks. Thus, depressives are described as resorting to pouting and suffering in order to inspire guilt in others. Bemporad's discussion of the "dominant other" is also related to the theories described above relating dependency to depression.

In reviewing these psychodynamic writings on depression, four basic descriptions of depressives' interpersonal styles emerge. Depression has been viewed as characterized by passivity and dependency, as manipulative, as hostile, and as a failure to adequately express aggressive feelings. These characterizations are not entirely independent of each other. Thus, the depressive may be dependent, unconsciously hostile, fail to adequately express his/her anger, and be interpersonally manipulative instead.

As noted above, these perspectives on depression are often couched in a rather abstract, complex fashion. Thus, it has been quite difficult to do adequate empirical research on the validity of these conceptions of depression. As will be discussed below, a number of modern theories have developed more testable hypotheses about interpersonal aspects of depression. Many of these ideas have their roots in these early psychodynamic theories and observations.

Another interpersonal perspective, which is less thoroughly developed but worthy of note, is the social systems perspective. Such writers as J. Haley (1976) and Minuchin (1974) have suggested that, while a particular member of a family system may be presented as the "identified patient," it is often the case that the individual's problem (i.e., depression) is a manifestation of a broader pattern in the family system. A family member may take on the role of "depressed," while others are then able to take on complementary roles of caretaker or martyr. Depressed behavior may serve other functions in the family system, such as providing one spouse with a form of time-structuring by their need to take care of the identified patient. The depressed individual may take on all blame for the problem in the family, relieving others from facing their own difficulties.

Fensterheim (1981), a behavior therapist, has described a number of cases in which depression was rewarding to other family members. In one instance, a husband's depression and resultant lack of libido relieved the wife from sexual contact with him, and allowed her to pursue an extramarital affair with minimal guilt. Depression has also been reported by systems theorists to occur in the "healthy" spouse when their partner is relieved of a chronic symptom (J. Haley, 1973).

Nugent (1979) has written an excellent review of such systems approaches to depression. She has also presented data suggesting that the interactional patterns of depressed men and their spouses differ from normals and psychiatric controls. Other than Nugent's research, few studies have been reported linking marital interaction, and other systems variables to depression, despite the wealth of clinical data

suggesting that family interaction is related to depression. Depression has been reported to relate to marital maladjustment (Overall, Henry, and Woodward, 1974; Coleman and Miller, 1975), although available evidence does not indicate whether such maladjustment causes, or is secondary to, depression.

Another approach to depression that looks beyond the individual, and at the social system in which he/she operates, is the literature on social support systems. From such a perspective, it is expected that the availability of a strong, large network of informal assistance and friendship may be a potent factor in ameliorating the effects of stress. A number of studies, reviewed by Cobb (1976), have found that the availability of social support networks may buffer the individual from the effects of life stressors on psychological and/or physical health. A recent longitudinal study of life stress, social support, and depression (Holahan and Moos, 1981) suggests that social support may moderate the effects of stress on depression.

Brown and Harris (1978), in a study cited above, also present data suggesting a relationship between social support and depression. They found that, among women who had experienced high levels of life stress, those with marriages characterized by a confiding relationship, especially with a husband, were less likely to develop depressive symptoms. However, for women who developed depression in the absence of high levels of life stress, such confiding relationships were unrelated to depression.

Another important interpersonal perspective is apparent in the work of Coyne, and Hammen and her colleagues. Coyne (1976b), following up on

the previously described clinical observation that depressives are often most annoying to others, systematically evaluated the effects of interacting with depressed patients on a group of nondepressed subjects. Coyne arranged for subjects to have phone conversations with either depressed patients, nondepressed psychiatric patients, or normals. He found that normal subjects became increasingly depressed, anxious, hostile, and rejecting after their conversations with depressed patients, but not after talks with the other two groups. Coyne has speculated that depressives are attempting to elicit support from others, but in a most ineffective manner. As the depressive attempts to elicit support from others, he/she drives others away unwittingly.

Hammen and her colleagues (Hammen and Padesky, 1977; Hammen and Peters, 1977, 1978), in a series of studies, also have looked at the responses of others to the depressed individual. Using both paper and pencil descriptions of depressives, and interactions with depressed models, Coyne's findings that depressives elicit negative emotions and rejection from others was replicated. Among their additional findings were the results that depressive symptoms are especially likely to lead to negative evaluation, and rejection, when expressed by males. This finding was particular to depression. Individuals with anxiety symptoms were not rejected in this fashion. Both male and female individuals reporting depression were also more likely to be described by others as having stereotypically "feminine" personality characteristics.

A final group of theories to be noted about the nature of interpersonal factors in depression is clustered around the study of social skill, and social competence. Social competence research has a rela-

tively brief history, compared to many psychological constructs. As in many other areas, Rotter (1954) anticipated much of the recent interest in social competence. He noted that social competencies may fail to develop, either through repeated avoidance behavior, or improper learning. Among the first systematic series of studies on social competence were those of Zigler and Phillips (1960, 1961b, 1962). In a series of studies, these authors noted that premorbid social competence was a good predictor of outcome in schizophrenia. Zigler and Phillips used a rather simple instrument, based on only six items (age, intelligence, education, occupation, employment history, and marital status) in these studies, but their initial findings have done a good deal to inspire later efforts in the study of social competence. Patients with good premorbid social histories showed considerably better outcome after a schizophrenic episode than patients with poorer prior social adjustment. These data supported the validity of the process-reactive distinction in schizophrenia, which continues to be useful in schizophrenia research (Bernheim and Lewine, 1979).

Behavior therapists have used the concept of deficits in social skill as a major theoretical concept to explain "response deficits," or problems related to the low frequency of a behavior. It is argued that, on many occasions, social behaviors which are necessary for optimal functioning are not in the patient's behavioral repertoire. The concept of social skills deficits has been used to formulate, and to treat, a number of clinical problems. The two most widely researched areas have been assertiveness skills training, and heterosexual dating skills training.

The behavioral understanding and treatment of subassertive individuals, and minimal daters, differs greatly from traditional psychodynamic therapeutic approaches. The individual who presents with an inability to say no to others, to express his/her wishes, etc., might be seen by the behavioral clinician as basically lacking the repertoire, or response capability, to effectively carry out such behavior. In a similar fashion, the young male who is shy with women, unable to make conversation with them, and afraid to ask for dates, might be seen as lacking the repertoire to complete these behaviors. These conceptions vary greatly from psychodynamic understanding of Oedipal issues, or dependency, as critical variables in such problems.

These behavioral conceptions have inspired treatment programs which rely heavily on practicing problematic social situations, coaching and modeling of effective behavior, and role-playing. These training programs appear to be useful for problems with assertiveness (MacDonald, 1975), heterosexual social anxiety (Curran, 1977), treating chronic psychiatric patients (Hersen and Bellack, 1976), and other clinical problems.

With the emphasis noted above in behavioral theory on social skills deficits, expansion of this approach into theory and treatment of depression was logical. Lewinsohn (1974) has been foremost among behavioral theorists studying the role of social skills deficits in depression. In Lewinsohn's theory, a low rate of response-contingent reinforcement is seen as the critical factor in depression. The depressed individual is seen as being on an extinction schedule--few rewards are provided by others, and the depressive emits few behaviors.

In several studies (Libet and Lewinsohn, 1972; Lewinsohn and Amenson, 1978), it was found that, among several samples of subjects, mood was consistently correlated with the frequency of pleasant activity. Thus, depressed mood was associated with low levels of pleasurable activity. However, this finding has not been surprising, as Blaney (1977) has pointed out, because decreased energy level and sociability have long been recognized to accompany depression.

The unique contribution of Lewinsohn's theory, however, is its emphasis on social skills deficits as one of several common pathways to decreased reinforcement, and subsequent depression. Other pathways include the depressive's environment failing to reinforce adaptive behavior sufficiently, and decrements in reinforcer potency.

Libet and Lewinsohn (1973) define social skill as "the complex ability both to emit behaviors which are positively or negatively reinforced and not to emit behaviors which are punished or extinguished by others." (p. 304) Thus, social skills are an ability, which enables people to elicit interpersonal reward from others. This definition of social skills is quite broad, and has been criticized by Curran (1979) as potentially defining such behaviors as ducking a punch, or exhibiting "crazy" behavior which is reinforced by others, as socially skillful. Lewinsohn and his colleagues do not specify in detail the nature of social skills deficits which occur in depression. Hersen, Bellack, and Himmelhoch (1981), however, have described in detail their clinical observations about the particular kinds of social skills problems evidenced by depressed patients. They describe the depressive's social skills deficits as wide-ranging, including problems of positive asser-

tion, negative assertion, and conversational skills. Positive assertion involves expressing affection or praise to others. Hersen, et al. state that depressed women rarely make these responses spontaneously, and that such responses, when made, are generally lacking in warmth or enthusiasm. However, they note that this may also be a consequence of dysphoric mood. Negative assertion involves standing up for one's rights, refusing unreasonable requests, or asking others to change annoying behavior. The authors note that depressives often fail to make these assertive responses, and often fear negative reactions from others to assertiveness. Conversational skills, which include the ability to gracefully initiate, maintain, and end conversations, are also seen as lacking. Depressives are described as insufficiently positively reinforcing to others in making these responses.

Lewinsohn and his colleagues have carried out the bulk of the empirical research on the relationship of social skills and depression. The results of the series of studies by Lewinsohn's group will be described and critiqued in detail, because they are quite frequently cited as demonstrating a relationship between social skill and depression. A number of unpublished studies will also be reviewed, because of their frequent citation by Lewinsohn and others as supporting the contention that depressives have deficits in social skill.

In all of these studies, Lewinsohn's research team has used a two-step approach to classify subjects as either depressed, psychiatric control, or normal groups. These criteria are shown in detail in Appendix A. Briefly, depressed subjects scored above a cutoff point on the MMPI Depression scale, and on a structured interview rating of

depression. In some studies, depressed subjects were also in treatment for depression. Psychiatric control subjects were selected on the basis of having a significant elevation on an MMPI clinical scale besides Depression, and by scoring below a cutoff point on a depression rating during an interview. Normal subjects had no significant MMPI scale elevations, and no significant indications of depression on interview.

Rosenberry, Weiss, and Lewinsohn (1968), in an unpublished paper, presented some of the earliest data purporting to show that depressives are deficient in social skills as compared to normals. Thirty two depressed student subjects, and 55 normal student subjects, chosen by the two-step approach outlined above, listened to two audiotapes of actors talking about their feelings and experiences. Subjects were told to respond by pushing a button whenever they would be likely to smile, nod, speak, or otherwise reinforce the speaker. One dependent variable was the total amount of reinforcement delivered. The second dependent variable, the skill of timing of responses, was assessed by comparing subjects' responses to the "popular" responses of the total group of subjects.

Contrary to prediction, depressed subjects did not differ significantly from nondepressed subjects on total level of reinforcement given. Depressed subjects were found to be less skillful in their timing on one stimulus tape, but results were not significant on the second stimulus tape. Some other data inconsistent with the hypothesis that depressives are less skilled than nondepressed subjects were reported. Subjects who scored higher on Lubin's (1965) Depression Adjective Check

List (DACL) did significantly better on the skill measures than subjects with low DACL scores. This was opposite of the predicted direction. Thus, results of this study appear limited in their support of the hypothesis that depressives have poor social skills.

In another unpublished study, Shaffer and Lewinsohn (1971) report the results of a study in which data coded from family interaction at dinner time were analyzed. Twenty one families were referred for the study from mental health facilities. Identified patients were classified as depressed, psychiatric control, or normal via the two-step approach described above. The authors do not report data critical in evaluating the study, such as the number of subjects per group, or diagnoses of the psychiatric controls. They apparently considered some of the patients referred to them as normal controls. It is not clear from the paper whether data from the psychiatric control groups were pooled, or analyzed separately. The authors report that depressed families have higher levels of silence, and that depressives initiated fewer interchanges, than controls. They report some inconsistent findings, stating, "The hypotheses about the depressed person being on an 'extinction' schedule (i.e., getting less support from the spouse than he gives to the spouse), were not supported for the group... However, post hoc analyses which include five additional 'depressed' families from a pilot sample do show support for female depressed persons as being on an extinction schedule relative to their respective spouses." (p. 5) Overall, it is difficult to assess the contribution of this study due to the lack of clear reporting of the data and procedure, but results do not appear to be consistently supportive of

the hypothesis that depressed patients are less socially skilled than controls.

Libet and Lewinsohn (1973) studied the behavior of undergraduate students in "self-study" groups over sixteen two-hour sessions. Eight depressed students, and eight normal students, defined as noted above, were the subjects. Half of the subjects were male, and half female. Two self-study groups were run at different times. Several "psychiatric control" subjects were also run, but their data were not included in the analyses. Subjects were evaluated on five operational measures of social skill. The first, rate of behavior, was defined as the number of actions emitted by subjects per hour. A second, interpersonal efficacy, was a complicated measure of the discrepancy between the amount of interaction directed toward an individual, versus the amount expected to be directed toward them, based on the frequency of their own behavior in the group. A third measure, interpersonal range, was related to the number of individuals subjects interacted with in the group meetings. Rate of positive reactions was computed as the ratio of positive behavior emitted by a subject, compared to total behavior. Finally, action latency was computed by assessing the number of thirty-second intervals which passed between a subject being the recipient of an interaction, and responding themselves.

Libet and Lewinsohn, in evaluating their results, state, "The results are generally consistent with the general hypothesis that depressed persons, as a group, are less socially skillful than non-depressed individuals." (p. 310) However, their results are not as strong as they claim, and involve a number of disturbing inconsisten-

cies in data analysis, and elevations of "trends" to "findings." This is particularly disturbing because this study has been widely cited as suggesting that depressives are lacking in social skill.

On their first measure, rate of behavior, a significant difference between depressed and nondepressed subjects was found only for group #1, and only for early sessions of the group. For group #2, this finding of a difference during early sessions was significant at only the .10 level. No differences were found over the late sessions. No overall F statistic is reported to justify the separate analyses of early sessions, and of different groups.

On the measure of interpersonal efficacy, no significant differences were found between the depressed and nondepressed groups. Results for interpersonal range found only differences between depressed and nondepressed subjects only for males in group #1 at the .10 level, and for males in group #2 at the .20 level. No significant results were found for females, and no justification was made for using a different grouping of subjects in this data analysis than in other analyses within the study. Once again, no overall F was reported. For rates of positive reactions, significant differences between depressed and nondepressed subjects were found at only the .07 level for group #1 during early sessions, and at the .05 level for group #2 for early sessions. No differences were found for later sessions, and no differences were found for negative reactions.

For the measure of latency, statistically significant differences were found between depressed and nondepressed subjects in each group. However, this measure was computed as the number of thirty-second

intervals between responding to another subject, and was not corrected for overall activity level. Thus, it is likely that this variable is more of a measure of activity level than of latency, because latencies are typically in a range much briefer than thirty seconds.

Despite these rather inconsistent results, the authors appear to exaggerate the magnitude of their findings by stating in their abstract, "The results were cross-validated in two groups and were generally consistent in showing depressed subjects to be lower than controls on a number of operational measures of social skill (i.e., activity level, interpersonal range, rate of positive actions emitted, and action latency)." (p. 304)

The authors do raise an important issue in their discussion, suggesting that lack of social skill is only likely to be an antecedent for depression if it is a deficit of response capability, versus merely a performance deficit. There was no effort in the study to differentiate between deficits in performance and capability, however.

In another unpublished study, Libet, Lewinsohn, and Javorek (1973) report results from small-group interactions, such as those described in Libet and Lewinsohn (1973), and from coding of family interactions at home. The authors used the two-step criteria for assigning subjects to depressed, psychiatric control, and normal groups as described above.

The report is difficult to accurately critique, because inadequate information is reported about such data as number of subjects per group, and diagnoses of psychiatric controls, are not included. In addition, the authors did not analyze the psychiatric control subjects' data as a separate group. Results were pooled with the normal controls to form

a "nondepressed" group for comparison. The authors report significant differences between depressed and nondepressed subjects in group interactions, with depressed males emitting and initiating fewer actions and reinforcement, being more silent, having longer latencies of response, and being more sensitive to aversive interactions than nondepressed male subjects. Results for males were similar in the home settings. Results for females were generally in the same direction, but failed to consistently fall in the same direction across groups. Results of this study must also be viewed with extreme caution, as the authors did not require statistical significance to label their results as "significant," but required only that differences be consistently in the predicted direction, even if of very low magnitude.

Sanchez and Lewinsohn (1980) have reported a recent study of the relationship of one category of social skill, assertiveness, to depression. Twelve depressed outpatients kept daily ratings over a five-week period, of their level of assertive behavior for the day, defined as the percentage of potential opportunities to be assertive in several target situations, during which they actually behaved assertively. A correlation of $-.50$ was found between assertiveness and depression, suggesting that subjects felt less depressed on days when they had been more assertive. When correlations were cross-lagged, it was found that assertiveness on a prior day was a better predictor of subsequent depressed mood than a prior day's mood level was of predicting a subsequent day's assertiveness. It should be noted that subjects were all engaged in a treatment program designed to treat depression with assertiveness training, and thus may have received

strong messages from their therapists that depression was related to levels of assertiveness.

Youngren and Lewinsohn (1980) have reported the results of another recent study of interpersonal behavior in depression. Seventy-five depressed outpatients, who were participants in a treatment program, 69 psychiatric controls, and 80 normals were assessed on a number of self-report and behavioral observation measures. Subjects were selected by the two-step criteria described above. The study included self-ratings of the frequency of a wide variety of behaviors, including positive social activities, negative assertion, conflict, giving and receiving negative feedback, and giving and receiving positive feedback. Subjects also rated the impact of these events on their mood, from extremely positive to extremely negative. Group interactions, similar to those described above, were also rated by judges on a number of components (i.e., latency, activity level), and on global levels of social skill. Similar ratings were also made of component behaviors, and global measures, after a dyadic interaction.

On the self-report measure, depressed subjects reported less frequently giving and receiving positive feedback, and engaging in positive social activity, than the other groups. No differences were found in levels of conflict, assertion, or giving negative feedback. Depressed and psychiatric control subjects both reported somewhat higher levels of receiving negative feedback than normals, although the difference was not statistically significant. Depressed subjects reported higher levels of subjective distress than the other two groups during assertion and conflict, and lower levels of satisfaction

than the other two groups when socially active, and giving and receiving positive feedback.

Analyses of individual items on the self-report measure which did significantly differentiate the depressed subjects from the other two groups clustered into three factors. The first factor involved initiating social activity, especially with strangers. A second factor included items having to do with giving and receiving warmth and affection. A third factor involved social activity with friends. Behavioral measures (i.e., activity level, initiating contact, and positive and negative reactions elicited) during group interactions did not differ between the three groups. Both the depressed and psychiatric control groups differed from normals on speech rate and speech volume, with slower, softer speech than normals. Depressed and psychiatric control subjects also showed lower levels of eye contact, pleasantness, facial expression, and facial expression-arousal than normals. On the global ratings of group interactions, depressives were rated as less skillful than the other two groups on self-reports, peer ratings, and judges' ratings. No differences were apparent between the groups on global ratings of the dyadic interaction.

In this study, it should be noted that, for most measures, much of the difference between depressed subjects and the control groups is only evident at the level of self-report. On behavioral measures, depressed subjects appeared similar to the psychiatric control subjects. This raises the question of whether depressives' self-critical cognitive style, noted above, biases efforts to assess their social behavior or social skill by self-report. However, depressives were also seen as

less skillful in group interactions by peers and judges. Component behaviors did not define any reliable characteristics unique to the depressed subjects. One interesting finding was that a number of positive behaviors (i.e., initiating social contact, giving and receiving affection) were the strongest discriminators of depressives from other subjects.

This study appears to be the strongest methodologically of the series of studies by Lewinsohn's group that have been reviewed thus far. One serious limitation of this study, however, is that the psychiatric control group had been paid for their participation, and were not in treatment, and were not given other psychiatric diagnoses. Thus, it is likely that they were not a comparable group in severity of disturbance to the depressives, who had volunteered for a treatment program for assistance with their depression.

Lewinsohn and his colleagues (Lewinsohn, Mischel, Chaplin, and Barton, 1980) have presented additional data suggesting that depressives not only have social skills deficits, but that their self-evaluation of their skills is an important variable as well. Depressed subjects were 71 outpatients undergoing treatment who had met MMPI and interview criteria for depression. Fifty-nine psychiatric control subjects, and 73 normals, were chosen as described above, from a community sample who were paid for their participation in the study.

Reliable ratings were made of subjects following a series of group interactions. After these interactions, subjects also rated themselves on the same dimensions of social skill. Depressed subjects were rated by judges to be less skillful than the other two groups, and depressed

subjects also rated their own performance in the group interaction lower than the other two groups rated themselves. No differences were found on either measure between normals and psychiatric controls. The other result of interest was that subjects from all three groups rated their level of social skill somewhat higher than external raters had. For both normals and psychiatric controls, and "illusory self-enhancement" effect, a positive discrepancy between self-ratings and external ratings, was statistically significant. For the depressed group, a small difference did not achieve statistical significance.

External ratings and self-ratings were obtained under the same circumstances described above after several months, when the depressed group had completed one of several forms of psychological treatment. While no changes had occurred in the two control groups over time, the depressed group rated their performance, and were rated by judges, as significantly more socially skilled at this post-treatment assessment as compared to the pre-treatment ratings. While statistical comparisons of these post-treatment means, between the three groups, were not reported, depressed subjects appear to have attained levels of self-rated, and observer-rated, social skill equivalent to the other two groups at the post-treatment assessment. The authors report considerable interest in the finding that depressed subjects appeared to have developed the same "illusory self-enhancement" effect at post-treatment that characterized the normals and psychiatric controls.

One additional study by Lewinsohn and his colleagues (Zeiss, Lewinsohn, and Munoz, 1979), while not aimed at examining differences between depressives and other groups, does provide data relevant to

the current review. In this study, depressed outpatients, chosen by the two-step criteria described above, were given one of three cognitive-behavioral treatments for depression. Half of the subjects in each treatment were pretested on a number of variables, and immediately began treatment. Another half of the subjects were given an initial pretreatment assessment, and given another pretreatment assessment after a one-month waiting period, before they began treatment. Patients were also assessed after treatment and on follow-up.

Among the assessment measures used were the self-report measure used in the Youngren and Lewinsohn (1980) study, and ratings of group interactions similar to those described above. All depressed subjects, regardless of whether they had been in treatment or on the waiting list, and regardless of which treatment they received, showed significant improvements in interpersonal skills variables. These changes were apparent for social activity, and comfort in social interaction and assertion, on the self-report measure. During group interactions all groups of depressives became increasingly socially skillful, as rated by objective raters and peers. It was also found that all depressed subjects became significantly less depressed over time, whether or not they had been in treatment or on the waiting list. Subjects in treatment did show greater improvement in depression than the waiting list group.

The findings appear important because of the significant changes over a brief period of time for the untreated groups. The fact that untreated depressed patients showed improvements in level of social skills equivalent to the gains of depressives in treatment suggest that

any deficits in social skill which were apparent initially were only temporary performance decrements. This explanation is further supported by the fact that even depressed subjects receiving treatments targeted at improving interpersonal skills showed no greater improvements on social skills measures than subjects in cognitive therapy, or waiting list patients. Also of note was the finding that untreated depressed subjects showed significant decreases in their scores on the MMPI Depression scale over the one-month waiting period. This suggests that depressed individuals chosen by Lewinsohn's criteria are probably experiencing only transient depressive symptoms.

Contrary to the frequent citations in the psychological literature on depression, the results of the series of studies by Lewinsohn and his colleagues reviewed above provide only mixed support for the contention that depressed individuals have social skills deficits. Results in the early studies were not consistent, often reporting results significant only for one gender of subjects, or on a few measures, or failing to find differences on different stimulus items or groups within the studies. Unpublished studies were often not reported in sufficient detail to allow for thorough scrutiny of methodology. In the Libet and Lewinsohn (1973) study, results were inconsistent and data analyses were not applied in a consistent, conventional fashion.

Recent studies by Lewinsohn and his colleagues have been of better methodological quality than their early research. A number of methodological and conceptual problems are apparent throughout all of the studies by Lewinsohn's group, however. One consistent problem was in the comparison groups chosen. Several studies included subjects

labelled as "psychiatric controls." However, no data were reported justifying the view that these subjects either experienced any psychological distress, or were seen by others as having psychiatric problems. Elevations on the Hypochondriasis or Psychasthenia scales on the MMPI were the only indications of psychopathology among these subjects. Elevations on the Hypochondriasis scale are not diagnostic of psychopathology, and are often found in acute medical illness (Wallace, MacCrimmon, and Goldberg, 1980), and chronic medical illness (Fordyce, 1979). High scores on Psychasthenia may be an indication of anxiety, but are also found among relatively normal individuals with obsessive personality characteristics.

The "psychiatric control" subjects appear especially inappropriate in the recent studies involving comparison with depressed individuals undergoing treatment. In these studies "psychiatric controls" were paid for their participation, and were neither undergoing any treatment, nor complaining of psychological disturbance. It is unlikely that they were as impaired as a group as the depressives who had volunteered for treatment. The finding by Zeiss, Lewinsohn, and Munoz (1979) that untreated depressives showed significant improvement after one month also suggests that Lewinsohn's selection criteria identifies depressives with rather mild transient symptoms.

Whether social skills deficits are specific to depression is another serious question. In the studies reviewed above, no research has compared depressed patients on measures of social skill with comparably impaired psychiatric patients. The studies of Zigler and his colleagues, noted above, report premorbid social functioning as

an important variable for schizophrenics, and overall samples of psychiatric patients. Becker (1974) and Weissman and Paykel (1974) have noted that, in their clinical experience, depressed patients do not show the extent of social skills deficits noted in schizophrenics, especially "process" schizophrenics.

Further suggestion that poor social skills may be related to psychopathology in general, rather than being specific to depression, comes from recent work by Curran, Miller, Zwick, Monti, and Stout (1980). The authors examined the incidence of social inadequacy in a general psychiatric population, using objective ratings of patients' problem-oriented medical records. About 7% of their patients were labelled as socially inadequate, and there was no relationship between the label of social skills deficit and type of psychiatric diagnosis, including depression. This is consistent with a similar finding by Bryant, Trower, Yardley, Urbietta, and Letemendia (1976), in which traditional psychiatric diagnoses were unrelated to social inadequacy in a British sample. An additional finding of interest in the Curran, et al. study was that far more (20.7%) of their socially inadequate patients were noted to be "overly assertive" than "insufficiently assertive" (6.9%). Thus, the available evidence suggests that social skills deficits are characteristic of many patient groups other than depressives.

A final problem to be noted in the Lewinsohn, et al. studies is the lack of concern for the conceptual distinction of social skills from social performance. While Lewinsohn notes the distinction in an early paper, all of the data reported result from either self-report,

or observation, of subjects' typical performance. Thus, it is not clear whether any performance deficits which were found occurred because of lack of skill or ability, or whether such differences were secondary to the decreased motivation and energy noted to accompany depression. Depressed individuals may have adequate skills, but not utilize them fully. In fact, the results of the study by Zeiss, Lewinsohn, and Munoz suggest that "skill deficits," as measured by the criteria used in this series of studies, and among depressive subjects chosen by the methods used in the studies, are likely to be only transient performance deficits. This problem also occurs in the interpretation of the results of the Sanchez and Lewinsohn study. From the high correlation of daily levels of assertiveness and depression, apparently depressed subjects showed day-to-day variations in their levels of assertiveness. Poor skills should logically produce consistently low levels of assertion, and variable performance appears most compatible with a performance deficit.

It should be noted that the notion of social skills deficits among depressed individuals is not necessarily critical to Lewinsohn's broader theory of depression. Poor social skills are described as merely one pathway by which individuals may receive low levels of response-contingent reinforcement from others. This lack of response-contingent reinforcement is seen by Lewinsohn as the critical element in depression. Also, Lewinsohn does not necessarily insist that all depressives lack social skills. He also notes (Lewinsohn, Biglan, and Zeiss, 1976) that individual differences occur in the specific nature of social skills deficits among depressed patients, and urges clinicians

to do an individual functional analysis of patients' social skills problems.

It is noteworthy, however, that a number of clinicians have made social skills training either a major or sole component of their treatment of depression (McClellan and Hakstian, 1979; Zeiss, Lewinsohn, and Munoz, 1979; Hersen, Bellack, and Himmelhoch, 1980). This is based on the assumption that depressives are lacking in social skills, and these clinicians cite the above studies to justify this contention. Thus, it appears critical that this question be examined carefully.

Besides the studies of Lewinsohn and his colleagues, Weissman and her collaborators at Yale have carried out the other major program of research on social functioning in depression. Their work emphasizes role functioning in depressed women. The study is a landmark, with its longitudinal design and careful evaluation of depressed and nondepressed women, carefully matched on socioeconomic variables.

Weissman and Paykel (1974) studied a group of 40 depressed women, and 40 normal women from the community matched carefully on age, race, marital status, religion, and social class. Controls had no history of serious medical or psychiatric disorder. Depressed subjects were part of a larger outcome study on the effectiveness of antidepressant medications and psychotherapy in treating depression. Subjects were assessed at several times over a twenty month period, using the Social Adjustment Scale (SAS), a reliable structured interview assessing functioning in five major spheres: work, economic, social and leisure activities, extended family, and marital. Only depressed patients who had shown a positive response to antidepressant medication (amitrip-

tyline) were studied, so the sample was not entirely representative of the general population of depressed women. Half of these depressed women received interpersonally oriented psychotherapy in addition to medications. The advantage to the design was that depressed subjects were assessed during the acute phase of their depression, and at several points during their recovery.

Weissman and Paykel found that, during the acute depressive episode, there was considerable impairment in depressives' lives, as compared to normals. Social impairment was evident in work performance, as a community member, and as a wife and mother. Impairment was most evident in marriage and parenthood roles. These roles were characterized by high levels of hostility and interpersonal friction, and poor communication with spouses. In marriages which had been fairly good before the depressive episode, depressed women tended to withdraw interpersonally, while in marriages which had been troubled, overt displays of resentment and friction were apparent during the acute phase.

During follow-ups at 2, 4, and 8 months, social performance was found to improve, but to lag behind improvement in other areas of depressive symptomatology. Work performance, anxious rumination, and relations with extended family improved rather rapidly. Contrary to the theories advanced in the psychodynamic literature, submissive dependency was only apparent in depressives during their acute disorder, and did not differ from normal controls during follow-up. Expressed hostility was also increased during the depressive episode, rather than inhibited, as some psychodynamic theorists have suggested. Inter-

personal friction and inhibited communication showed a slow and incomplete remission. Even at 8 months, patients who were asymptomatic still had poorer communication with intimates, with higher levels of friction and arguments with normals. At 20 month follow-up, social functioning had continued to improve, but had still failed to reach the levels of the normal women.

In summarizing their results, Weissman and Paykel suggest that, while much social role dysfunction is closely related to the depressive episode, the finding of stable, relatively enduring maladjustments in interpersonal friction and inhibited communication suggests a chronic impairment of communication, which likely predates the depression, and may create some of the stress precipitating the depressive episode. Becker (1977) notes that this finding runs counter to "clinical lore since Kraepelin," which has held that, unlike remitted schizophrenia, depressives show no residual interpersonal disturbances when asymptomatic. Weissman and Paykel's findings are consistent with the hypothesis that depressives function less well interpersonally than normals, and also elucidates that such impairment is most persistent in certain spheres (marital, parental), and in a characteristic style (withdrawal, inhibited communication, and friction). Their 20 month follow-up is a landmark achievement in this area of research.

However, Weissman and Paykel candidly point out several methodological problems which suggest caution in evaluating their results. First, their study did not include a psychiatric control group, and it is not apparent how specific these findings are to depressives versus psychiatric patients in general. The authors do suggest that the

impairments found among their depressed sample appeared less severe than those noted clinically among schizophrenics.

A second concern is in the nature of their measure of social role functioning. Their data was all dependent on self-report from the patients and normals themselves during interviews. The authors present a thorough, and persuasive, argument for using this approach in their initial study. Of course, self-report data is open to question on the basis of such likely biases as normals presenting themselves in an overly favorable light, and depressives being overly self-critical. Such effects may have also been magnified by the fact that raters were not blind as to whether subjects were patients or normals. Patients were also the only subjects interviewed repeatedly, and the authors assumed that social role functioning would be stable over time for the normals.

Some indications of an unrealistically positive picture of the normal subjects is apparent in the research. For example, the authors state, "The normals usually described full and easy communication, reporting that they and their spouses could discuss most things openly and with humor. They exhibited pride in the level of understanding between themselves and their husbands, and were not embarrassed by discussing personal feelings in the interview." (p. 91) Despite the above concerns, the study appears to be among the most solid methodologically in the area of social performance and depression.

The other major area of evidence suggesting that social skills deficits may be an important component to depression comes from a number of treatment programs aimed at alleviating depression. Some of

these studies have used treatment packages which have included social skills training as one element. Successful treatment programs for depression utilizing social skills training as a component have been reported by several authors (McClellan and Hakstian, 1979; Zeiss, Lewinsohn, and Munoz, 1979), and preliminary reports from another study appear promising (Hersen, Bellack, and Himmelhoch, 1980). However, in light of the rather limited evidence that depressives have social skills deficits, social skills treatment programs may be premature.

Although social skills training programs have been found to be effective in treating depression, it must be emphasized that evidence for effective treatment, while important in its own right, has serious limitations in providing data about the etiology of a disorder. McClellan (1981) has reviewed evidence from a number of behavioral and cognitive-behavioral packages suggesting that treatment components, such as social skills training, do not act specifically on particular symptoms. Rather, it appears that different kinds of cognitive and behavioral treatment packages may lead to similar outcomes. Thus, programs emphasizing cognitive restructuring or social skills training may each lead to equal improvement in depressive cognition and levels of social performance.

Another problem is that effective treatment may be independent of etiology. A commonly used medical analogy is that, while penicillin may be the treatment of choice for syphilis, it is not logical to describe syphilis etiologically as a deficit in penicillin. Thus, treatment outcome data is probably of limited utility in developing sophisticated theories of depression, and successful treatment does not demon-

strate prior existence of a deficit.

In summarizing the results of all of the above research on social skills and depression, several generalizations can be made. Depressed individuals, in several studies, have been found to show less effective levels of social performance than normals during small group interactions, on self-report measures, and on interview self-report. Differences between depressives and other clinical groups of similar severity have not been adequately assessed. In fact, several clinicians, and the results of several studies, suggest that social skills deficits are characteristic of psychopathology in general. These differences between depressives and normals appear to be chronic, and exacerbated by acute depressive episodes, but have not been shown to represent skills deficits. Depressives also appear to arouse negative emotions, such as anger and depression, in others during interpersonal interactions. No reliable components of these problems have been identified, other than inconsistent findings that depressives have slower speech and greater latency of response than normals (Hinchcliffe, Lancashire, and Roberts, 1971).

While the hypothesis that depressed patients have social skills deficits which are significantly related to their disorder seems reasonable, a number of problems in the data available have been reviewed. To summarize, the major problems include lack of appropriate psychiatric control groups, and lack of attention to the distinction between social skill and social performance. The social skills deficit hypothesis is of little explanatory value in a theory of depression unless results are: a) specific to depression and not characteristic

of psychopathology in general, and b) skills deficits, not merely performance decrements, are found.

Given the above critique, it appears that a stricter test of the social skills deficit hypothesis in depression would require: a) a comparison of clinically depressed subjects not only with normals, but also with a psychiatric control group of similar severity, and b) a method of assessing level of social skill, rather than merely social performance. If depressives have socially skilled responses in their repertoires, but do not use them, social skills training would not appear to be a maximally efficient clinical strategy. If performance deficits, but not skills deficits, occur in depression, then social skills deficits are unlikely to predispose to depression. Finally, if social skills deficits are apparent in depressives and other clinical groups as well, social skills deficits are not of value in explaining the question of the "choice of symptom."

Research on social skills deficits in depression is not highly developed, and very little is clearly resolved. However, it appears to be especially important to address the questions outlined above about the relationship of social skills and depression. Besides the theoretical question within the behavioral social skills perspective, and the importance of documenting the existence of skills deficits while clinicians are treating patients with social skills training, these questions are important.

"Social skills deficit" is a concept requiring only a minimal level of inference. Social skills are far more easily operationalized than such interpersonal mechanisms as hostility, dependency, and mani-

pulativeness.

Social skills deficits may be seen to underlie some of the other interpersonal perspectives reviewed above. For example, within the psychodynamic literature, it appears likely that an individual's level of assertiveness skills might be related to problems with hostility. A person chronically unable to express anger and irritation appropriately and assertively may behave in a passive-aggressive fashion, or be seething with irritation over minor frustrations.

Wachtel (1973), a psychoanalytically trained therapist who has written creatively about the relationship between psychodynamic and behavioral approaches, has written about this link between social skills and psychodynamic factors. In describing the case of a withdrawn, socially anxious young man, Wachtel notes:

His dreams and associations indicated rather strikingly the kind of intense ties to mother that are often stressed and elaborated upon in the psychoanalytic literature, and that are often viewed as the current cause of current life difficulties. I was struck, however, by the cumulative effects of a life history in which the experiences necessary to develop social skills and ease with people did not occur; and I suggested that even if his conflicted ties to his mother were historically earlier, and thus primary in that sense, the present causal nexus was far more complicated. (p. 58)

Wachtel goes on to describe how problems which may have begun in ways described by psychoanalytic theory may have become part of a "life style," and may create vicious circles of anxiety, avoidance, and failure to learn social skills. Wachtel urges psychodynamically oriented therapists to actively teach social skills to their patients, and to encourage "real-life" behavior change, to break these patterns.

Becker (1974) has also noted the relevance of the concept of social skills in examining the psychodynamic notion of dependency. Individuals may be unskilled in gaining reward from others in more healthy fashions, and thus depend on a single significant other for personal gratification.

Especially since a number of the psychodynamic descriptions of depression reviewed provide a rather unsympathetic, possibly pejorative, viewpoint on the depressive, it appears important to consider the simpler explanation of a lack of social skills. It would be unfair to label a depressed patient as "manipulative," or "dependent," when they are actually not capable of more effective behavior. This would be akin to labeling a brain-damaged patient as "lazy" because they did not succeed in school.

Social skills deficits may also underlie problems described by some theorists as "systems" problems. For example, faulty marital communication may be due to deficits in social skills relevant to discussing and settling differences (Eisler, Miller, Hersen, and Alford, 1974). Lack of social support may also be influenced by one's ability to initiate and maintain good relationships. In fact, several researchers have suggested that the interrelationship of level of social support, and psychological adjustment, is a potential confound in social support research (Ilfield, 1976; Andrews, Tennant, Hewson, and Vaillant, 1978; Roskies and Lazarus, 1980). "Social network" may not be a randomly distributed variable. Depressives, or other socially unskilled individuals, may develop a vicious circle of poor interpersonal skills, and a lack of a support network.

The negative response from others to the depressed person, noted above, may also be related to social skills problems. Certain kinds of ineffective interpersonal behavior might be quite annoying to others. Coyne (1976a, 1976b) notes that social skill may be related to depressives' rejection by others, but describes the problem as one in which "depressed persons lack the special social skills necessary to overcome the effects of their mood induction on others." (p. 192) Thus, Coyne speculates that the rejection-eliciting interpersonal style is a consequence of the depression, and is doubtful that problems in response capability predate the depressive episode.

In the next section of the paper, methodological issues critical to the investigation of the role of social skills deficits in depression will be discussed. Two problems will be reviewed in detail: the assessment of social skills deficits, and the selection of subjects for research on depression.

C H A P T E R I I I

METHODOLOGICAL ISSUES

While the hypothesis that depression is related to social skills deficits is more easily operationalized than many of the rather abstract psychodynamic conceptions discussed above, investigation of this problem requires attention to several methodological issues. These fall into two categories: the assessment of social skills and the selection of subjects in depression research. These areas will be reviewed, and the choice of methods for the current study addressed in the context of these methodological concerns.

Assessment of Social Skills

Because of its tradition within the behavior therapy paradigm, assessment of social skills has usually been linked closely with the treatment of clinical problems. Several approaches to assessment of social skill have been used.

Ideally, many behavior therapists have preferred direct behavioral observation of subjects in naturalistic settings as the ideal in assessment. Despite its advantages, this strategy has many limitations. It is expensive, and time consuming, to arrange to observe large numbers of subjects in "real-life" settings, across a variety of situations. The mechanics of arranging to observe an individual in such situations as dating are overwhelming. Methodological problems, such as reactivity, occur when subjects are aware that they are being observed, and

ethical issues, such as invasion of privacy, are raised if subjects are observed covertly. Naturalistic observation also presents problems of standardization of situations across subjects. Finally, unless the investigator covertly "arranges" for situations to occur, he/she must wait for the situations of interest to happen. Thus, naturalistic observation is generally only an appropriate method when subjects are a "captive audience," such as residents of a hospital, or students in a classroom.

Several other methods for assessment of social skills have also been reported. Sociometric ratings by peers, or others (i.e., parents, teachers) is one alternative to direct observation of behavior. Using this approach with adult subjects has severe problems, however. Subjects may not uniformly have reliable peers to serve as informants. Confidentiality is another potential problem with asking friends, or work supervisors, to assist in collecting such data, especially with psychiatric patients. Such reports may also be negatively biased if informants are aware of subjects' status as a patient.

Most assessors have come to rely on either paper and pencil self-report measures, or have used role-play techniques as measures of social skills. Self-report measures are not ideal because of the potential for such problems as defensive response sets. The usual problems with self-report measures are also compounded in the current context by several other problems. First, self-report measures currently available report to measure only a limited range of social skills, usually either assertiveness, or heterosexual dating skills. It is evident from examining the clinical literature on social skills training (Hersen,

Bellack, and Himmelhoch, 1980; McClean, 1981) that these two content areas exclude many critical types of social skills.

A second critical problem is in the confounding of one's typical level of behavior with level of social skills in available self-report scales. For example, self-report assertiveness scales ask subjects to report their typical responses, or frequency of responses, to a number of situations. As has been demonstrated by Schwartz and Gottsman (1976), many individuals who are subassertive may have full knowledge of, and an appropriate repertoire in, self-assertion. They point out that there may be a performance deficit due either to motivational or cognitive variables (i.e., feeling guilty about saying no). Thus, a subject may be typically quite unassertive, and score low on a self-report inventory of assertion, but not actually lack the necessary response in their repertoire. It would be misleading to label such an individual as lacking in social skill.

Thus, most researchers in the area of social skills have used role-playing as their primary assessment approach. Subjects are presented with imaginary social situations, and asked to make a response as if they were actually in the particular situation. This method has the advantage of approximating in vivo observation, while allowing for some standardization of situations. Subjects may also be given instructional sets in responding, and behavior in situations of interest to the investigator may be studied.

One of the first reports of role-playing as a method for assessing social behavior was that of Rotter and Wicker (1948). Despite their finding that observers' ratings of social aggressiveness from role-

played interactions predicted subjects' behavior outside of the laboratory, role-playing was not a popular technique in assessment until recent years. Interest in assertiveness training (Rehm and Marston, 1968; McFall and Marston, 1970) led to a revival of the technique.

However, this strategy is also not without controversy. Several studies have been published in which the authors propose that role-play tests are not valid predictors of actual behavior in naturalistic settings (Bellack, Hersen, and Turner, 1978, 1979; Bellack, Hersen, and Lamparski, 1979). These studies have been reviewed in detail by Haley and Kerr (1980). Haley and Kerr, and Curran (1978) have pointed out a number of severe methodological flaws in these studies. Briefly, the major problem in these studies has been the use of inadequate behavioral criteria for social skills in naturalistic settings. Wessberg, Mariotto, Conger, Farrell, and Conger (1979) have described a recent study which supports the utility of role-play assessments. A study by MacDonald and Kern (1980) shows that role-play assessments of assertion show good test-retest reliability, and discriminant validity superior to commonly used paper and pencil measures of assertion.

A further set of issues arise when attempting to evaluate particular strategies for developing and using role-play assessment techniques. One dominant paradigm for developing behavioral assessment measures has been provided by Goldfried and D'Zurilla (1969). Their model provides an excellent procedure for generating criterion-referenced measures for use with specific populations. These assessments are particularly useful in aiding clinical decisions about whether patients meet minimal competency levels, or have deficits, in skills which are known to be

critical for a given population. Criterion-referenced tests allow the clinician to decide on the basis of subjects' responses whether skill training is indicated. This is contrasted with traditional norm-referenced tests, which provide relative information about how well subjects have done in comparison with other subjects. As Curran and Wessberg (1980) have described, such criterion-referenced tests are not intended for (or optimal for) comparison of groups to assess for differences in skill. In fact, such tests start off with the assumption that there are certain skills which differentiate a given clinical group from normals, and systematically attempt to identify these skills, with input from experts and patients themselves.

For the current study, it appears useful to sample subjects' skill across a broad sample of social situations. It is also important not only to assess situations known or assumed to be problematic, but also to provide information about particular areas of relative strength. Thus, the norm-referenced approach is most consistent with these goals.

No assessment device appropriate for use with adult women, which measures a number of dimensions of social skill, is presently reported in the literature. Thus, a role-play assessment measure was generated for use in the current study.

Generating a role-play assessment measure for social skills involves a large number of methodological issues, and choices. In some cases, there is little data available to guide these choices of method. A discussion of some of these decisions, and the justification for the approach taken in the current project, is included below. These issues have also been reviewed by McFall (1977), Nay (1977), and Curran and

Wessberg (1980).

Conceptual issues related to the "situation-specificity," and organization of, items in behavioral tests are important in deciding on the method of generating and categorizing role-played responses. As MacDonald (1978) and Goldfried and Linehan (1977) have noted, behavioral assessment has often rejected the interest of traditional assessors for a nomothetic approach, and traditional concerns for such psychometric problems as reliability and internal consistency. Behavioral assessors have favored a "situation-specific," ideographic approach to assessment. In particular, Mischel's (1968) review of the situation-specificity of behavior, and criticisms of the assumptions of traditional assessment, has guided behavioral assessors. Mischel's position has been that there is little evidence for cross-situational consistency to behavior, and that traditional psychological tests predict a minimal amount of variance compared with the variance due to situational variables.

This position, however, has recently been challenged by the data, and strong arguments of Epstein (1979, 1980) and Zuckerman (1979), against a purely situation-specific perspective. Epstein's work suggests that increasing the number of observations comprising a behavioral sample increases the reliability of the measurement, and demonstrates significant cross-situational consistency within individuals.

In the current study, this issue was addressed by collecting role-play data across a larger number of situations than is commonly done in such testing. The use of a large number of particular situations, and varying stimulus details across these situations, also addresses a problem noted by Maher (1978), called stimulus sampling. For example,

if only one item on refusing requests is included in a behavioral test, the particular characteristics of the actor involved in the scene, or the particular wording of the item, may limit the generalizability of the response to the content area of interest. Thus, in the current study, four items were developed for each category of behavior, equally balanced for male and female targets of the interaction, and with several different actors to provide varying stimuli for interaction.

The conceptual organization of items also involves choices about whether or not to develop subscales, and how to label and structure these. Most behavioral role-play tests have used total score across all situations as the unit of analysis. The major problem with this approach is that only a global level of assertiveness is obtained. As noted above, social skills include a number of behaviors besides assertion.

When social skills researchers have elected to classify role-play items into subscales, past efforts have generally organized items by the role of the target of the interaction (i.e., spouse, boss, friend), or the gender of the target. In the present study, situations were classified by the goal of the interaction to be role-played. Besides facilitating the rating of responses, by providing a good criterion of effectiveness (whether a role-played response would be likely to accomplish the goal specified), this method of classification closely approximates the typical format of social skills training programs. Responses to a given class of situations (i.e., refusing requests) are typically taught. Thus, results relating deficits to particular classes of situations, organized by goals, may be useful to clinicians in

selecting which kinds of skills to train.

In the present study, because of the interest in what kinds of social situations depressives may have social skills problems in, seven categories of behavior were assessed. These included three categories of negative assertion (refusing unreasonable requests, disagreeing and stating one's own opinion, and requesting someone to change their behavior), two categories of positive assertion (giving, and receiving, compliments), and two categories of initiating social contact (introducing oneself, and initiating a social activity). For each of the seven categories, four items were developed, resulting in a total of 28 situations.

The method of generating items for role-play tests is another concern. In the criterion-referenced approach described above, items are generated by members of the target sample, and by experts, and are specifically aimed at finding problematic situations for the target group. In the present study, this approach was rejected for two reasons. First, no "target" group is being identified, because in the present study the goal is to compare depressed patients, nondepressed psychiatric patients, and normals. Second, rather than identifying items which are assumed to be difficult for depressives, either through their judgements or those of experts, the goal was to sample a variety of social behaviors.

After a thorough review of the relevant literature on the training of assertiveness and social skills, and of the theoretical literature on the relationship of social skills to psychopathology, the author identified the above categories of social behaviors, which are commonly

referred to in the social skills literature. In particular, the work of Eisler, Hersen, Miller, and Blanchard (1975), Hersen, Bellack, and Himmelhoch (1980), and the work of Curran and his colleagues (Curran and Mariotto, 1981) was influential.

A group of particular items sampling the above categories was constructed by the author, and reviewed by several psychologists who made suggestions for changes in wording and format of items, and suggested additions or deletions of items. These items were pilot-tested on a group of undergraduate college students, and further revised, and pilot-tested with several psychiatric patients, and then put in their final format. Items were also rated for their realism during the study by subjects.

Another question within the field is the format for role-plays. This includes decisions about the use of brief versus extended interactions, and live models versus taped stimuli. While live models, and extended role-plays may be more "realistic," training such models is expensive, and may minimize the degree of standardization of the stimuli. The difficult task of training actors to respond in a consistent fashion to an extended sequence of responses from subjects has been described by McFall (1977), who notes that as the length of an interaction increases, the possibilities of subjects' potential responses, which should be handled in a standardized fashion by actors, increases exponentially. Most researchers in the area have come to rely on brief role-played interactions because of these problems, and use either taped stimuli, or taped stimuli with brief cues from actors. Due to the factors of expense, and concern for standardization, role-play

stimuli for the present study were taped, and subjects gave only brief responses.

Another area of question included the manner of recording and rating role-played responses. Some researchers have emphasized the rating of molecular components such as eye contact, or number of smiles (Hersen and Bellack, 1977), while others have emphasized molar ratings of social skills (Curran and Wessberg, 1980; MacDonald, 1978). Several authors have argued that molar ratings are more generalizable across situations, and that molecular ratings are difficult to interpret (Curran and Wessberg, 1980; Haley and Kerr, 1980). For example, low levels of eye contact may be problematic in assertiveness situations, but overly high levels may also be inappropriate.

Some researchers have used videotaping to record subjects' role-played responses, while others have favored audiotapes. Videotapes are more expensive, but allow for coding and consideration of non-verbal components more thoroughly than do audiotapes. The data available, however, suggest that molar ratings of audiotapes and videotapes lead to similar ratings (Weider and Weiss, 1980). Because the major goal of the present study is to examine level of social skill, rather than to identify components for a social skills training program, and because of expense, subjects' role-played responses were audiotaped, and molar ratings of social skills were emphasized.

A final issue to be considered is the instructional set given to subjects as they role-play. Surprisingly, this topic has been the object of only a few studies, and has been typically ignored when investigators report results of research on social skills assessment.

This may have occurred because behavioral assessors have tended to view role-played responses as simply "behavioral samples." The available evidence, however, suggests that role-played responses are strongly influenced by instructional set. Nietzel and Bernstein (1976) found that subjects asked to give their "best response" to a number of role-played items were more assertive in their responses than subjects told to give their "normal" responses to the scenes. The authors note that subjects' best responses were more likely to reflect their actual level of social skill than the "normal" responses, which probably measured only typical social performance. The distinction between typical social performance, and social skill, is also suggested by the work of Schwartz and Gottsman (1976). The authors studied college students identified as high, medium, or low in assertiveness in a series of role-play situations. Subjects were asked, on different items, to either write out a model response, as a measure of skill in developing and delivering a response orally; and to respond naturally, as a measure of actual assertiveness. Low assertive subjects did not differ from the other two groups on their written knowledge of a good assertion response, or their ability to deliver an ideal verbal response. Low assertive subjects behaved less assertively than the other groups under the instructional set of giving a natural response. The authors presented data suggesting that this was probably due to inhibiting negative self-statements by the low assertive group, rather than a difference in skill.

Another important element in the instructional set given subjects in a role-play task, which has not been systematically addressed in past

research, is the extent to which subjects are encouraged to use imagery to intensify the reality of the scenes described. Nay (1977) has proposed that imaginal rehearsal might increase the realism of stimulus scenes used in role-play tests. He also makes the point that videotaped stimuli, or live enactments, may paradoxically decrease the reality of scenes to subjects by presenting a concrete stimulus which clearly differs from the actual target of the interaction (i.e., spouse, boss). Imagery may allow subjects to make scenes personally meaningful and realistic. Thus, in the current study, instructions urged subjects to imagine scenes fully. Subjects also were told to alter any details of the scenes which seemed irrelevant to their actual life situation. For example, unmarried subjects were encouraged to imagine an interaction with a boyfriend or past husband in scenes which described marital interaction.

Scenes were written with the goal of minimizing ambiguity about the appropriate response called for, while avoiding unnecessary detail such that subjects from a broad variety of backgrounds would be unable to perceive the scenes as realistic. In each scene, there was a directive to pursue a particular goal, e.g., complimenting someone, or refusing someone's request. This also allowed for relatively clear criteria for later rating of the effectiveness of each response, in terms of whether it would be likely to achieve this major goal.

Selection of Subjects in Depression Research

The other critical methodological issue to be addressed is the selection of subjects. As Depue and Monroe (1978) have pointed out, the generalizability of most research on depression is severely limited by the nature of the "depressed" sample used. Many studies have used college students who score above critical points on either the Beck Depression Inventory, or Zung Self-Report Depression Inventory. Depue and Monroe note that there is serious doubt about whether such subjects are at all comparable to clinically depressed patients, and whether results of such research can be applied in a meaningful way to clinical populations.

Becker (1974) has also pointed out the fact that progress in the area of psychological research on depression has been severely hampered by the use of vastly differing, heterogeneous subject groups between different studies of depression. It is often not clear what type of patients are used in a particular study. Inconsistent results between studies may be due to differences in subject populations. The importance of this problem also has been recognized by Buchwald (1980). As editor of the Journal of Abnormal Psychology, he has called for the increasing use of reliable diagnostic classification of subjects in psychological research on psychopathology.

Recent developments in psychiatric/psychological diagnosis have led to a number of systems of reliable diagnosis of depression, with distinctions between a number of patterns of depressive symptoms. One system, the RDC, was noted above. Another system, influenced in large

part by the success of the RDC system, is DSM-III. The DSM-III system for the classification of depression distinguishes between a number of very different subgroups of depression. Some of these will be described briefly. For full details, see the DSM-III manual (1980).

"Major depressive disorder" is the term used to describe a depression which has lasted for a minimum of two weeks, and which includes daily occurrence or a number of other symptoms besides mood disturbance. DSM-III criteria for major depression are shown in Appendix B. Such depressions may be quite debilitating, and include serious disturbances in vegetative and social functioning.

"Dysthymic disorder" is the diagnosis denoting long-standing depressions, of at least two years duration, which may include depressed periods of only a few days, and which lack the number and severity of symptoms occurring in major depressions. "Cyclothymic disorder" involves mild depressions, with intermittent hypomanic episodes which do not reach a level of severity sufficient to warrant a diagnosis of bipolar depression, or manic depressive disorder.

"Adjustment reaction with depressed mood" denotes a depression in an individual who is responding to a stressful life event with a depressed response which is short-lived, and lacking in the severity and number of symptoms of a major depression. Other diagnostic subgroups in DSM-III with depressive features include "uncomplicated bereavement," which is the normal grief reaction to the loss of a loved one; "Schizoaffective disorder," in which depressive symptoms include some schizophrenic symptoms, such as Schneiderian first rank symptoms of thought insertion, thought broadcasting, or thought-withdrawal, and

other psychotic symptoms of insufficient severity to warrant a diagnosis of schizophrenia; and "Bipolar affective disorder," in which manic episodes of great energy, racing thoughts, and reckless behavior alternate with major depressions. In "Borderline Personality Disorder," individuals may have brief bouts of depressed mood, which alternate with anger and other intense moods, and may have suicidal thoughts and make frequent "manipulative" suicidal gestures.

While this author is not overly enamored of all of the assumptions about psychopathology (i.e., the "disease model") evident in DSM-III, the system is clearly an improvement of the past system of vague descriptions with no clear criterion for diagnosis contained in DSM-II. It appears essential for psychopathology researchers to begin to sort out, in more homogeneous subgroups, the varied manifestations of depression which the clinician encounters.

DSM-III was given an extensive field trial before its implementation in 1980. Spitzer, Forman, and Nee (1979) reported the results of the initial field trial of DSM-III. Interviewers, from a wide variety of settings, diagnosed patients according to the DSM-III criteria. Results of reliability coefficients were reported for joint interviews with two clinicians, and for independent (test-retest) interviews. Overall kappa coefficients for all Axis I diagnoses, was .78 for joint interviews, and .66 for test-retest interviews. For major affective disorders, reliability coefficients averaged .70 for joint interviews, and .65 for test-retest interviews.

The authors attribute these relatively high reliabilities to several features of DSM-III which were not available in DSM-II. Sys-

tematic descriptions of each diagnostic category are made in the DSM-III manual, and diagnostic criteria are outlined. In the case of Major Depression, specific criteria are described for minimum duration of symptoms, and number of symptoms, and exclusion criteria are stated.

It appears critical for the present study to use a relatively well-defined, homogeneous group of depressed subjects. In the current study, only subjects meeting DSM-III criteria for Major Depression were included in the depressed group, because this is a rather common, yet severely impaired, subgroup of depressives. As will be discussed in the Methods section, the depressed sample was further defined by excluding subjects with additional problems suggesting other diagnoses.

Another important issue in subject selection is the selection of appropriate comparison groups. An excellent article on this topic, written in the context of selection of subjects in studies of schizophrenia, was written by Chapman and Chapman (1977). The authors note that simply reporting an overall difference on a measure between a pathological group (i.e., depressives), and normals, may be trivial. Such a design does not allow the researcher to state whether the reported difference is due to the characteristics of the psychopathological group in particular, or whether the difference is characteristic of all deviant or pathological groups. The authors urge researchers to use a psychiatric control group, with disorders of similar degree, and a normal control group, with all three groups equated on control variables such as age and education. They further note that "one escapes triviality...by studying differential deficits rather than the presence or absence of a single deficit." In the context of the current project,

studying social skills across a number of categories of behavior, rather than only examining an overall level of a single variable such as assertiveness, is a strategy likely to lead to a more sophisticated understanding of any "differential deficits" apparent among depressives.

Finally, in the current study descriptions of such details as subjects' diagnoses, psychotropic medications, ages, educational attainment, and number of prior hospitalizations were carefully noted, to allow future researchers full information on these critical variables.

C H A P T E R V

METHOD

Subjects

Subjects in the two patient groups were recruited from two inpatient psychiatry units at the University of Washington School of Medicine. All patients on the units were evaluated by a psychiatry resident, and an attending psychiatrist, and given a DSM-III diagnosis. Attending psychiatrists' diagnoses were used in the research, as these clinicians were quite experienced with the DSM-III system. No subjects were included if their diagnoses were substantially different by the two assessors.

All subjects were Caucasian women, between the ages of 21 and 55 years of age. Women were selected because of the data suggesting that depression has a much higher incidence in females than among males (Weissman and Klerman, 1977). Individuals with a history of mental retardation, chronic schizophrenia, schizoaffective disorder, or manic-depressive disorder were not included. Also excluded were patients with serious medical problems such as multiple sclerosis, or organic brain syndromes, and individuals not fluent in English. Patients were not tested while they were actively hallucinating, or delusional, or in crisis. When possible, patients were tested near the end of their hospitalization, after some improvement in symptoms, so that their performance in the study would be as close to their optimal level of function

as possible. Also excluded were patients who had been residing in institutional settings prior to their hospitalization, which indicated extreme, chronic impairment.

Additional criteria for inclusion in each group were:

Depressed Group: Diagnosis of Major Depression. No history of alcohol or drug abuse within the past two years. Not receiving ECT treatment.

Nondepressed Psychiatric Control Group: Psychiatric diagnoses other than affective disorder, and no history of affective disorder. Thus, no subjects with Dysthymic, Cyclothymic, Manic, or Schizoaffective Disorders, or Adjustment Reaction with Depressed mood, were included.

Normal Control: No history of psychiatric hospitalization or psychological treatment. No history of alcoholism or drug abuse.

Potential subjects in the two psychiatric groups were identified by the author by reviewing the charts of all patients admitted to the units. Once it was determined that they might meet the criteria outlined above, potential subjects' primary nurses were approached, to exclude any patients actively psychotic, in crisis, or unavailable due to scheduling problems. The author then approached potential subjects, briefly explained the nature of the study, and asked them to participate. Only two potential subjects from the depressed group, and two from the psychiatric control group, refused to participate. These individuals generally indicated that they were in great psychological distress and unwilling to take on any extra non-required activity on the ward.

DSM-III diagnoses and medications of subjects in the two patient groups are shown in Table 1.¹ Diagnoses were made within the first few

TABLE 1

DSM-III Diagnoses and Psychotropic Medications of Patients

<u>Diagnoses</u>	<u>Medications</u>
Depressed:	
Major Depression	Tofranil (Imipramine)
Major Depression	Tofranil (Imipramine)
Major Depression	Dalmane (Flurazepam)
Major Depression	Sinequan (Doxepin)
Major Depression	Tofranil (Imipramine)
Major Depression	Vivactil (Protriptyline)
Major Depression	Elavil (Amitriptyline) Mellaril (Thioridazine) PRN
Major Depression	None
Major Depression	Elavil (Amitriptyline)
Major Depression, Borderline Personality	None

TABLE 1 (continued)

<u>Diagnoses</u>	<u>Medications</u>
Psychiatric Control:	
Adjustment Reaction with Mixed Emotional Features, Passive-Aggressive Personality	None
Bulimia, Panic Disorder	Dalmane (Flurazepam)
Anorexia Nervosa	Mellaril (Thiridazine)
Brief reactive psychosis	Haldol (Haloperidol)
Brief reactive psychosis	Haldol (Haloperidol)
Antisocial Personality	None
Opiate and barbiturate addiction, benzodiazepine abuse, Mixed Personality Disorder with Antisocial Traits	Librium (Chlordiazepoxide)
Anorexia Nervosa	None
Adjustment Reaction with Mixed Emotional Features	None
Adjustment Reaction with Anxious Mood	Dalmane (Flurazepam)

days of hospitalization. Patients on these units were generally discharged within two weeks of admission, and then discharged for longer-term outpatient treatment.

Normal subjects were solicited through the hospital's volunteer program, and a poster, stating that a group of women with no history of psychological treatment was needed for a control group in a psychological study. Most of these women were community members donating four hours per week to the hospital on a volunteer basis. Volunteers appeared to vary widely in social class and level of education. They were preferable as normal controls to other available groups, such as nurses, because they had not received any special training in psychology or social skills through their work.

Experimenter

The author, a male graduate student in psychology, ran the subjects in the study.

Instruments

Multidimensional role-play assessment. The development of this measure has been outlined above. The 28 items, shown in Appendix C, were randomized, and tape recorded with a narrator and several male and female voices. The tape was initially run with several pilot subjects to assure that it was clearly understandable. A demonstration item, and several practice items, were also included.

Categories of behavior assessed, hereafter referred to by Roman numeral, were:

Negative Assertion.

Category I. Requesting someone to change their behavior, i.e., asking a neighbor to turn down a stereo, or asking someone to pay back money which was loaned.

Category II. Disagreeing, giving own opinion, i.e., responding to others' criticisms of a movie the subject enjoyed, or to criticisms of the subject's spending of money by their spouse.

Category III. Refusing a request, i.e., refusing to loan a new car, or to babysit for a neighbor.

Positive Assertion.

Category IV. Giving a compliment, i.e., to a friend about a recent promotion, or about an enjoyable dinner party.

Category V. Receiving a compliment, i.e., about one's own recent promotion at work, or successful party.

Initiating Social Contact.

Category VI. Introducing self, i.e., at a party, or for a job interview.

Category VII. Initiate social activity, i.e., ask a friend over for coffee, or neighbors over for a barbeque.

Beck Depression Inventory (BDI). This 21 item self-report inventory was used as a measure of severity of depression, as a check on the validity of subjects' assignment to groups by diagnoses. Described by Beck, Ward, Mendelson, Mock, and Erbaugh (1961), subjects select one response from a list of depressive symptoms which is most characteristic of their state of depression on the day of testing. Split-half

reliability of .86 was reported by Beck, et al., and numerous studies have supported the validity of the instrument. The BDI is shown in Appendix D.

Shipley Institute of Living Scale. The Vocabulary section of the Shipley was used as a brief measure of verbal intelligence and vocabulary, to assess for group differences, and possible confound of intelligence on the social skill measure. As described by Shipley (1940a, 1940b), the reliability of the 40-item multiple choice vocabulary scale is .87. Prior research has found .80 (Wiens and Banaka, 1960) and .90 (Sines and Simmons, 1959) correlations between the Shipley and Weschler Adult Intelligence Scale Full Scale scores. The Shipley is shown in Appendix E.

Procedure

All subjects were tested individually. After subjects had reviewed and signed an informed consent form (see Appendix F), the investigator gathered data on subjects' ages, educational attainment, marital status, and number of prior psychiatric hospitalizations. Normals were also screened for history of psychiatric hospitalization, psychological treatment, or alcohol or drug abuse, and depressives for recent alcohol or drug abuse. The subject was then read a standard explanation of the study, and instructions for responding to the role-play test (see Appendix G). After answering any questions, the experimenter played the tape recording of a modeling scene, and delivered the modeled response, as shown in Appendix C. This taped scene was then

replayed for subjects, and they were told to give the best response they could when the item was replayed. Thus, all subjects had a very easy initial response. Subjects were then given several additional practice items, until they had attained a criterion of three responses which were in proper role-play format. Subjects were given no feedback as to the nature of a good response, but were reminded to respond in a role play format, to give the best response they could, and to speak into the microphone. All subjects were able to meet the criterion for further participation within five or less practice trials.

Subjects were then told that the rest of the role play test would follow, and that all of their responses would be tape recorded. A tape recorder was left running continually from this point until subjects had completed the 28 items.

Throughout the role-play test, the experimenter did not give feedback to subjects about their performance, even if it was solicited. Subjects were told to "Do your best" if they hesitated to respond, or asked for feedback. In instances where subjects stated that they did not hear or comprehend an item, the item was repeated.

After the role-play test, subjects were given a four-item questionnaire to assess subjects' judgements of: a) how realistic the role-play scenes were; b) how well they felt they had done on the role-play task; c) how well they would have actually done in such situations in real life over the past month; and d) how well they would have handled such situations in their real life during their optimal level of functioning over the past year. These questions are shown in Appendix H.

Subjects were then interviewed briefly about their perceptions of the role-play task, their real-life interpersonal difficulties, and their perception of the relationship of the role-plays to their real-life behavior. Questions asked are shown in Appendix I.

The experimenter was careful to answer subjects' questions, and to reassure subjects about their performance as appropriate. In several cases, patients noted that they realized from the testing that therapy emphasizing social skills training might be helpful to them. The experimenter encouraged such patients to tell the unit staff of this concern, and referred patients to a local clinic providing such services. The experimenter offered several external attributions for any patients who were distressed about what they perceived as poor performance, i.e., the artificiality of role playing to a tape-recording, and the large number of scenes.

Subjects were then given the BDI and the Shipley. Some patients had completed the Shipley as a routine part of their initial psychological evaluation on the inpatient unit, and these scores were used for such patients.

Tape Ratings

The tape recordings of subjects' responses on the role-play test were edited, such that all 30 subjects' responses to a particular item were placed sequentially on a cassette tape. This procedure was intended to reduce the likelihood of halo effects which might result from a system in which raters' judgements of subjects' responses would influence their ratings of other items. Responses were placed on

these edited tapes in a random order, with no cues as to the diagnostic category of subjects.

Raters were two female psychology undergraduates, blind to the diagnostic group of subjects. Raters were trained by the investigator, who initially spent several hours in lecture and discussion of definition and examples of good and poor social skills.

The investigator and the raters proceeded, category by category, to develop rating criteria for each individual item on a 1-5 rating scale of social skill. The particular guidelines for each item are shown in Appendix J. Effective, socially skillful responses were determined by many factors, including the verbal content, intonation, and latency and length of response. Such ratings involve complex judgments, and strict behavioral criteria for such ratings are not feasible (Curran and Wessberg, 1980). Rating criteria were thus actually guidelines, and ratings were on an interval rather than an ordinal scale.

Both raters independently rated each response on overall social skill. A minimum inter-rater reliability of an average Pearson R of .80 per category was established. In instances where initial ratings did not meet this level of reliability, independent ratings were repeated by each rater with trial-by-trial feedback between raters. The investigator was careful to assure that ratings were made independently. In order to maximize overall reliability and validity of the ratings, both raters rated all items for all subjects on overall social skill.

On negative assertion items, raters also noted if a response could be characterized as overly aggressive or overly passive. Because these

ratings were made on an occurrence/nonoccurrence fashion, reliability was expressed as a ratio of number of agreements, to the sum of agreements and disagreements, of the raters. A minimum of .80 reliability was specified.

Components of latency of response in seconds, length of response in seconds, and length of response in words, were also rated for each item. Because these ratings were easily definable, and an initial reliability check showed a minimum of .90 reliability for these components, raters each rated only one half of the items from each category on these components, other than two overlapping items for a random reliability check. Rate of response, in words per second, was calculated by dividing length of response in words by length in seconds.

C H A P T E R V

METHOD

Subjects

Subjects in the two patient groups were recruited from two inpatient psychiatry units at the University of Washington School of Medicine. All patients on the units were evaluated by a psychiatry resident, and an attending psychiatrist, and given a DSM-III diagnosis. Attending psychiatrists' diagnoses were used in the research, as these clinicians were quite experienced with the DSM-III system. No subjects were included if their diagnoses were substantially different by the two assessors.

All subjects were Caucasian women, between the ages of 21 and 55 years of age. Women were selected because of the data suggesting that depression has a much higher incidence in females than among males (Weissman and Klerman, 1977). Individuals with a history of mental retardation, chronic schizophrenia, schizoaffective disorder, or manic-depressive disorder were not included. Also excluded were patients with serious medical problems such as multiple sclerosis, or organic brain syndromes, and individuals not fluent in English. Patients were not tested while they were actively hallucinating, or delusional, or in crisis. When possible, patients were tested near the end of their hospitalization, after some improvement in symptoms, so that their performance in the study would be as close to their optimal level of function

as possible. Also excluded were patients who had been residing in institutional settings prior to their hospitalization, which indicated extreme, chronic impairment.

Additional criteria for inclusion in each group were:

Depressed Group: Diagnosis of Major Depression. No history of alcohol or drug abuse within the past two years. Not receiving ECT treatment.

Nondepressed Psychiatric Control Group: Psychiatric diagnoses other than affective disorder, and no history of affective disorder. Thus, no subjects with Dysthymic, Cyclothymic, Manic, or Schizoaffective Disorders, or Adjustment Reaction with Depressed mood, were included.

Normal Control: No history of psychiatric hospitalization or psychological treatment. No history of alcoholism or drug abuse.

Potential subjects in the two psychiatric groups were identified by the author by reviewing the charts of all patients admitted to the units. Once it was determined that they might meet the criteria outlined above, potential subjects' primary nurses were approached, to exclude any patients actively psychotic, in crisis, or unavailable due to scheduling problems. The author then approached potential subjects, briefly explained the nature of the study, and asked them to participate. Only two potential subjects from the depressed group, and two from the psychiatric control group, refused to participate. These individuals generally indicated that they were in great psychological distress and unwilling to take on any extra non-required activity on the ward.

DSM-III diagnoses and medications of subjects in the two patient groups are shown in Table 1.¹ Diagnoses were made within the first few

TABLE 1

DSM-III Diagnoses and Psychotropic Medications of Patients

<u>Diagnoses</u>	<u>Medications</u>
Depressed:	
Major Depression	Tofranil (Imipramine)
Major Depression	Tofranil (Imipramine)
Major Depression	Dalmane (Flurazepam)
Major Depression	Sinequan (Doxepin)
Major Depression	Tofranil (Imipramine)
Major Depression	Vivactil (Protriptyline)
Major Depression	Elavil (Amitriptyline) Mellaril (Thioridazine) PRN
Major Depression	None
Major Depression	Elavil (Amitriptyline)
Major Depression, Borderline Personality	None

TABLE 1 (continued)

<u>Diagnoses</u>	<u>Medications</u>
Psychiatric Control:	
Adjustment Reaction with Mixed Emotional Features, Passive-Aggressive Personality	None
Bulimia, Panic Disorder	Dalmane (Flurazepam)
Anorexia Nervosa	Mellaril (Thiridazine)
Brief reactive psychosis	Haldol (Haloperidol)
Brief reactive psychosis	Haldol (Haloperidol)
Antisocial Personality	None
Opiate and barbiturate addiction, benzodiazepine abuse, Mixed Personality Disorder with Antisocial Traits	Librium (Chlordiazepoxide)
Anorexia Nervosa	None
Adjustment Reaction with Mixed Emotional Features	None
Adjustment Reaction with Anxious Mood	Dalmane (Flurazepam)

days of hospitalization. Patients on these units were generally discharged within two weeks of admission, and then discharged for longer-term outpatient treatment.

Normal subjects were solicited through the hospital's volunteer program, and a poster, stating that a group of women with no history of psychological treatment was needed for a control group in a psychological study. Most of these women were community members donating four hours per week to the hospital on a volunteer basis. Volunteers appeared to vary widely in social class and level of education. They were preferable as normal controls to other available groups, such as nurses, because they had not received any special training in psychology or social skills through their work.

Experimenter

The author, a male graduate student in psychology, ran the subjects in the study.

Instruments

Multidimensional role-play assessment. The development of this measure has been outlined above. The 28 items, shown in Appendix C, were randomized, and tape recorded with a narrator and several male and female voices. The tape was initially run with several pilot subjects to assure that it was clearly understandable. A demonstration item, and several practice items, were also included.

Categories of behavior assessed, hereafter referred to by Roman numeral, were:

Negative Assertion.

Category I. Requesting someone to change their behavior, i.e., asking a neighbor to turn down a stereo, or asking someone to pay back money which was loaned.

Category II. Disagreeing, giving own opinion, i.e., responding to others' criticisms of a movie the subject enjoyed, or to criticisms of the subject's spending of money by their spouse.

Category III. Refusing a request, i.e., refusing to loan a new car, or to babysit for a neighbor.

Positive Assertion.

Category IV. Giving a compliment, i.e., to a friend about a recent promotion, or about an enjoyable dinner party.

Category V. Receiving a compliment, i.e., about one's own recent promotion at work, or successful party.

Initiating Social Contact.

Category VI. Introducing self, i.e., at a party, or for a job interview.

Category VII. Initiate social activity, i.e., ask a friend over for coffee, or neighbors over for a barbeque.

Beck Depression Inventory (BDI). This 21 item self-report inventory was used as a measure of severity of depression, as a check on the validity of subjects' assignment to groups by diagnoses. Described by Beck, Ward, Mendelson, Mock, and Erbaugh (1961), subjects select one response from a list of depressive symptoms which is most characteristic of their state of depression on the day of testing. Split-half

reliability of .86 was reported by Beck, et al., and numerous studies have supported the validity of the instrument. The BDI is shown in Appendix D.

Shipley Institute of Living Scale. The Vocabulary section of the Shipley was used as a brief measure of verbal intelligence and vocabulary, to assess for group differences, and possible confound of intelligence on the social skill measure. As described by Shipley (1940a, 1940b), the reliability of the 40-item multiple choice vocabulary scale is .87. Prior research has found .80 (Wiens and Banaka, 1960) and .90 (Sines and Simmons, 1959) correlations between the Shipley and Weschler Adult Intelligence Scale Full Scale scores. The Shipley is shown in Appendix E.

Procedure

All subjects were tested individually. After subjects had reviewed and signed an informed consent form (see Appendix F), the investigator gathered data on subjects' ages, educational attainment, marital status, and number of prior psychiatric hospitalizations. Normals were also screened for history of psychiatric hospitalization, psychological treatment, or alcohol or drug abuse, and depressives for recent alcohol or drug abuse. The subject was then read a standard explanation of the study, and instructions for responding to the role-play test (see Appendix G). After answering any questions, the experimenter played the tape recording of a modeling scene, and delivered the modeled response, as shown in Appendix C. This taped scene was then

replayed for subjects, and they were told to give the best response they could when the item was replayed. Thus, all subjects had a very easy initial response. Subjects were then given several additional practice items, until they had attained a criterion of three responses which were in proper role-play format. Subjects were given no feedback as to the nature of a good response, but were reminded to respond in a role play format, to give the best response they could, and to speak into the microphone. All subjects were able to meet the criterion for further participation within five or less practice trials.

Subjects were then told that the rest of the role play test would follow, and that all of their responses would be tape recorded. A tape recorder was left running continually from this point until subjects had completed the 28 items.

Throughout the role-play test, the experimenter did not give feedback to subjects about their performance, even if it was solicited. Subjects were told to "Do your best" if they hesitated to respond, or asked for feedback. In instances where subjects stated that they did not hear or comprehend an item, the item was repeated.

After the role-play test, subjects were given a four-item questionnaire to assess subjects' judgements of: a) how realistic the role-play scenes were; b) how well they felt they had done on the role-play task; c) how well they would have actually done in such situations in real life over the past month; and d) how well they would have handled such situations in their real life during their optimal level of functioning over the past year. These questions are shown in Appendix H.

Subjects were then interviewed briefly about their perceptions of the role-play task, their real-life interpersonal difficulties, and their perception of the relationship of the role-plays to their real-life behavior. Questions asked are shown in Appendix I.

The experimenter was careful to answer subjects' questions, and to reassure subjects about their performance as appropriate. In several cases, patients noted that they realized from the testing that therapy emphasizing social skills training might be helpful to them. The experimenter encouraged such patients to tell the unit staff of this concern, and referred patients to a local clinic providing such services. The experimenter offered several external attributions for any patients who were distressed about what they perceived as poor performance, i.e., the artificiality of role playing to a tape-recording, and the large number of scenes.

Subjects were then given the BDI and the Shipley. Some patients had completed the Shipley as a routine part of their initial psychological evaluation on the inpatient unit, and these scores were used for such patients.

Tape Ratings

The tape recordings of subjects' responses on the role-play test were edited, such that all 30 subjects' responses to a particular item were placed sequentially on a cassette tape. This procedure was intended to reduce the likelihood of halo effects which might result from a system in which raters' judgements of subjects' responses would influence their ratings of other items. Responses were placed on

these edited tapes in a random order, with no cues as to the diagnostic category of subjects.

Raters were two female psychology undergraduates, blind to the diagnostic group of subjects. Raters were trained by the investigator, who initially spent several hours in lecture and discussion of definition and examples of good and poor social skills.

The investigator and the raters proceeded, category by category, to develop rating criteria for each individual item on a 1-5 rating scale of social skill. The particular guidelines for each item are shown in Appendix J. Effective, socially skillful responses were determined by many factors, including the verbal content, intonation, and latency and length of response. Such ratings involve complex judgments, and strict behavioral criteria for such ratings are not feasible (Curran and Wessberg, 1980). Rating criteria were thus actually guidelines, and ratings were on an interval rather than an ordinal scale.

Both raters independently rated each response on overall social skill. A minimum inter-rater reliability of an average Pearson R of .80 per category was established. In instances where initial ratings did not meet this level of reliability, independent ratings were repeated by each rater with trial-by-trial feedback between raters. The investigator was careful to assure that ratings were made independently. In order to maximize overall reliability and validity of the ratings, both raters rated all items for all subjects on overall social skill.

On negative assertion items, raters also noted if a response could be characterized as overly aggressive or overly passive. Because these

ratings were made on an occurrence/nonoccurrence fashion, reliability was expressed as a ratio of number of agreements, to the sum of agreements and disagreements, of the raters. A minimum of .80 reliability was specified.

Components of latency of response in seconds, length of response in seconds, and length of response in words, were also rated for each item. Because these ratings were easily definable, and an initial reliability check showed a minimum of .90 reliability for these components, raters each rated only one half of the items from each category on these components, other than two overlapping items for a random reliability check. Rate of response, in words per second, was calculated by dividing length of response in words by length in seconds.

C H A P T E R V I

RESULTS

Analyses were computed across group results on background variables, social skill ratings, component ratings, and self-report ratings. Where significant F ratios were found, post-hoc tests were carried out, using the Newman-Keuls test at the $p < .05$ level. Finally, correlational analyses were computed.

Initial group comparisons. Preliminary analyses were computed to assess whether the groups differed on demographic and other control variables and to check the validity of the assignment of subjects to groups. Table 2 shows the means and standard deviations of these variables. One-way analyses of variance, with the three groups as the independent variable, indicated no significant differences between the groups on age (see Table 3), education (see Table 4), and Shipley scores (see Table 5). A significant effect on number of psychiatric hospitalizations ($F = 6.18, p < .01$) was found (see Table 6). A post-hoc comparison indicated that the two psychiatric groups did not differ on this measure from each other, but had more hospitalizations than the normal group. A main effect was also significant on the BDI ($F = 13.82, p < .001$), as shown in Table 7. Post-hoc comparisons indicated that all three groups differed on this measure from each other, with the depressed group having the highest mean, and the normals the lowest.

Thus, the groups are generally equated on age, education, and verbal intelligence, and the psychiatric groups are distinct from the

TABLE 2
Means and Standard Deviations, Descriptive Data

	<u>Depressed</u> (<u>n</u> = 10)	<u>Psychiatric</u> <u>Control</u> (<u>n</u> = 10)	<u>Normal</u> (<u>n</u> = 10)
Age (years)	34.20 (13.01)	26.60 (6.55)	35.30 (11.97)
Education (years)	12.50 (2.59)	13.50 (2.99)	14.10 (1.79)
Shipley	28.90 (4.31)	31.40 (4.40)	32.80 (5.92)
Number of Psychiatric Hospitalizations	3.00 (3.16)	2.00 (1.15)	0 (0)
Beck Depression Inventory	30.10 (18.89)	14.60 (7.57)	2.40 (2.01)

TABLE 3
ANOVA Table, Age

<u>Source</u>	<u>df</u>	<u>Mean Squares</u>	<u>F Ratio</u>	<u>F Prob.</u>
Between Groups	2	224.4333	1.89	.170
Within Groups	27	118.5222		

TABLE 4
ANOVA Table, Education

<u>Source</u>	<u>df</u>	<u>Mean Squares</u>	<u>F Ratio</u>	<u>F Prob.</u>
Between Groups	2	6.5333	1.04	.368
Within Groups	27	6.2926		

TABLE 5
ANOVA Table, Shipley

<u>Source</u>	<u>df</u>	<u>Mean Squares</u>	<u>F Ratio</u>	<u>F Prob.</u>
Between Groups	2	39.0333	1.60	.220
Within Groups	27	24.3296		

TABLE 6

ANOVA Table, Number of Psychiatric Hospitalizations

<u>Source</u>	<u>df</u>	<u>Mean Squares</u>	<u>F Ratio</u>	<u>F Prob.</u>
Between Groups	2	23.3333	6.18	.006
Within Groups	27	3.7778		

TABLE 7

ANOVA Table, Beck Depression Inventory

<u>Source</u>	<u>df</u>	<u>Mean Squares</u>	<u>F Ratio</u>	<u>F Prob.</u>
Between Groups	2	1927.3000	13.82	.0001
Within Groups	27	139.4704		

normals in psychiatric history and severity of depression. The two psychiatric groups are also distinct from each other in level of depression. The depressed group's mean score on the BDI is in the severe depression range, according to Beck's criteria. The psychiatric control subjects' mean BDI score is in the mildly depressed range,² while the normals' mean is in the nondepressed range. The similarity in number of psychiatric hospitalizations suggests that the two patient groups are fairly similar in overall severity of disorder.

Role-play ratings.

Skill ratings. Interrater reliabilities for items, averaged over the seven categories are shown in Table 8. Pearson product-moment correlations varied from .80 to .83. However, since the average of both raters' judgements were used in analysis of the skill measures, the effective reliabilities for the skill data are best represented by the Spearman-Brown coefficient, which corrects for the increased reliability resulting from multiple raters (Strahan, 1980). These reliability coefficients ranged from .89 to .91, and are shown in Table 8. A preliminary ANOVA indicated that the two raters did not differ significantly in their rating of skill ($F < 1.0$), so for further analyses of the skill ratings the judges' scores were averaged. To assess the internal consistency of the skill ratings across the 28 role-play items, a split-half reliability (for odd-even items) was computed. A Spearman-Brown corrected reliability of .94 was found, suggesting good internal consistency, and justifying summing scores across items.

Means and standard deviations of the skill ratings, for all

TABLE 8
Mean Interrater Reliability Within Categories

<u>Categories</u>	<u>Pearson r</u>	<u>Spearman-Brown (Cronbach alpha)</u>
I.	.822	.902
II.	.814	.897
III.	.805	.892
IV.	.828	.906
V.	.802	.890
VI.	.828	.906
VII.	.817	.899
Total	<hr/> .817	<hr/> .899

categories, are shown in Table 9. A repeated-measures ANOVA, with categories as the repeated measure, crossed with groups as the second independent variable, revealed significant effects for groups ($F = 8.8$, $p < .01$), categories ($F = 9.0$, $p < .01$), and their interaction ($F = 2.5$, $p < .01$) on the skill rating as shown in Table 10. In order to interpret the significant interaction effect, post-hoc analyses were computed on the means across the three groups on all seven categories, and on the mean of ratings across all categories. The three groups did not differ significantly on Categories I and III. On Categories II, IV, V, VI, and VII, and on the mean of the skill ratings across categories, the normal group was rated significantly more skillful than the two psychiatric groups, who did not differ significantly from each other on any of these measures. These results are also shown in Figure 1.

Analyses of the categorical ratings of subjects as "overly passive," or "overly aggressive," on the negative assertion items (Categories I, II, and III) were made with a Chi-squared test, to discern whether there were differences in the kinds of responses made which were rated as less skillful. These data are shown in Table 11.

A Chi-squared of 19.35 ($df = 4$) across the entire table was significant ($p < .001$). An additional analysis of only depressed and nondepressed patients' aggressive and passive responses (a 2×2 table) resulted in a significant Chi-squared of 4.06 ($df = 1$, $p < .05$). Thus, depressed and nondepressed psychiatric patients showed opposite patterns of difficulty with the negative assertion items. Depressives were most likely to respond overly passively, while psychiatric controls were much more likely to be overly aggressive.

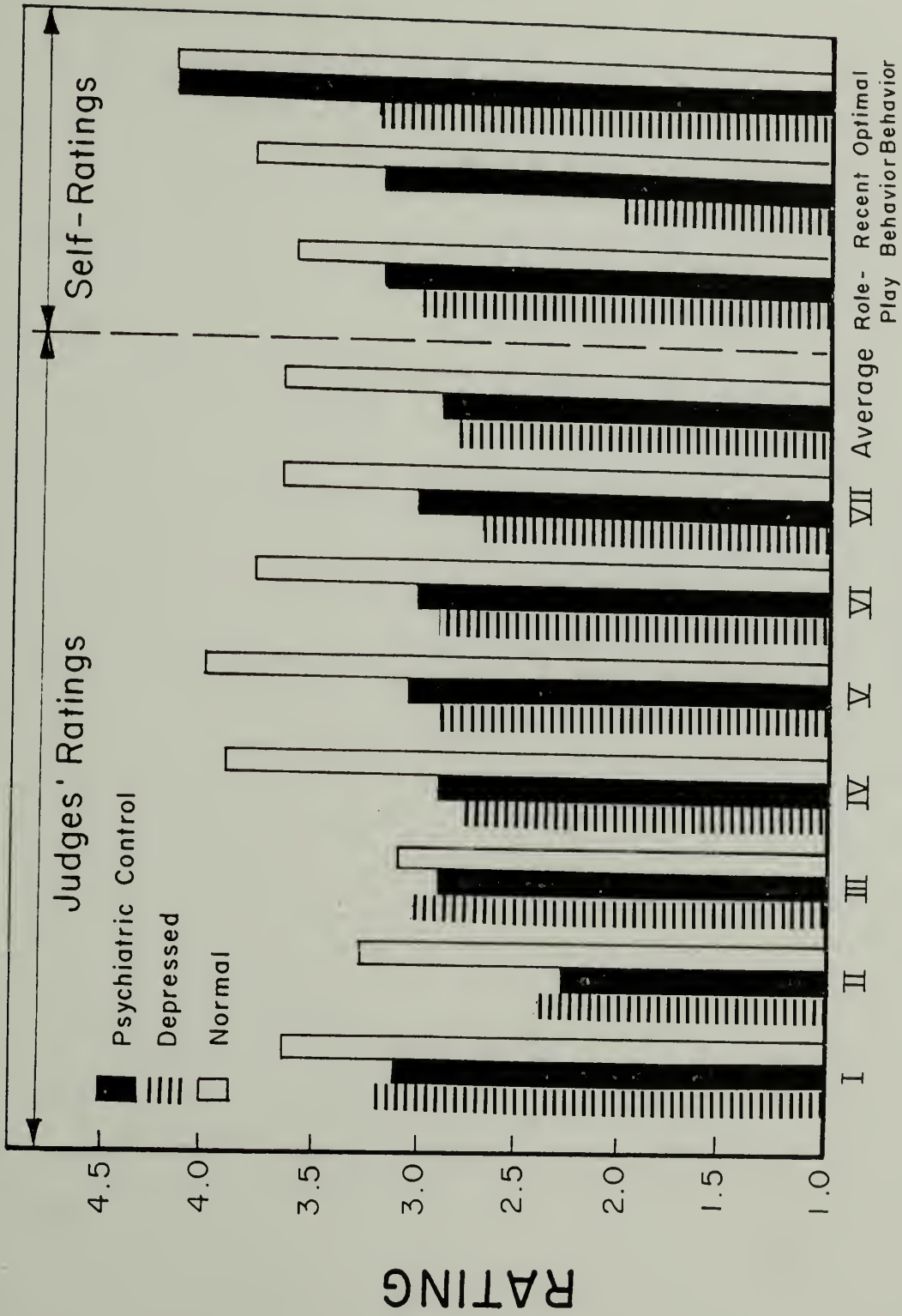
TABLE 9
Means and Standard Deviations, Skill Ratings

<u>Categories</u>	<u>Depressed</u> (n = 10)	<u>Psychiatric Control</u> (n = 10)	<u>Normal</u> (n = 10)
I.	3.16 (.54)	3.10 (.37)	3.63 (.59)
II.	2.38 (.83)	2.30 (.64)	3.29 (.81)
III.	3.00 (.36)	2.90 (.42)	3.16 (.61)
IV.	2.71 (.64)	2.88 (.66)	3.91 (.67)
V.	2.88 (.58)	3.04 (.68)	4.00 (.68)
VI.	2.81 (.77)	3.00 (.57)	3.78 (.68)
VII.	2.66 (.54)	2.99 (.55)	3.65 (.48)
Total	2.80 (.51)	2.89 (.40)	3.63 (.54)

TABLE 10
 Repeated Measures ANOVA Table, Skill Ratings

<u>Source of Variance</u>	<u>df</u>	<u>Mean Squares</u>	<u>F Ratio</u>	<u>F Prob.</u>
Between Groups (D)	2.	14.599	8.78	.005
S/D	27.	1.663		
Categories (C)	6.	1.492	8.99	.001
DC	12.	.416	2.51	.005
S/D/C	162.	.166		

Fig. 1. Judges' Ratings and Self-Ratings of Social Skills.



CATEGORIES

TABLE 11

Contingency Table, Categorical Ratings of Negative Assertion Items

	<u>Aggressive</u>	<u>Passive</u>	<u>Neither</u>
Depressed	21	27	72
Psychiatric Control	27	14.5	78.5
Normal	10	12	98

Figures are the sum of occurrences across the 12 items and raters divided by 2 to correct for multiple raters.

Component ratings. Repeated-measures analyses of variance, similar to those made on the ratings of social skill, were made on the component ratings of latency, length in seconds, length in words, and rate of speech. Interrater reliabilities for these measures were made on two random occasions for each rating, and Pearson product-moment correlations ranged from .92 to .94 on latency, .93 to .98 on length in seconds, and from .93 to .98 on length in words. Repeated-measures ANOVAs on all four measures produced no significant results for groups, or interaction of groups and categories, but significant main effects for categories were found for each variable. Results for latency are shown in Tables 12 and 13,³ results for length in seconds are shown in Tables 14 and 15, results for length in words are shown in Tables 16 and 17, and results for rate of speech are shown in Tables 18 and 19. The main effect for categories was not of interest in the present study because it simply indicated that some categories of behavior were related to longer latency or length of response. Thus, no additional post-hoc analyses were made of these data.

Self-ratings. One way ANOVAs were computed on the four rating scales subjects completed immediately after the role-play test. Means and standard deviations of these ratings are shown in Table 20, and ANOVAs are shown in Tables 21, 22, 23, and 24. On the rating of realism, no significant differences between the groups were apparent, and mean ratings were rather high for all three groups. Thus, subjects in all three groups rated the role-play situations as highly realistic. On the self-rating of performance on the role-play, no significant

TABLE 12

Means and Standard Deviations, Latency of Response

<u>Categories</u>	<u>Depressed</u> (n = 10)	<u>Psychiatric Control</u> (n = 10)	<u>Normal</u> (n = 10)
I.	2.28 (3.09)	.90 (.57)	1.38 (2.55)
II.	3.28 (3.80)	2.08 (1.25)	1.45 (.60)
III.	2.48 (4.36)	.60 (.49)	.63 (.38)
IV.	1.13 (.67)	.53 (.36)	.55 (.73)
V.	1.25 (.66)	1.10 (.67)	.60 (.72)
VI.	1.70 (1.84)	1.70 (1.46)	1.05 (.90)
VII.	1.15 (1.58)	.93 (.68)	.70 (.61)
Total	1.89 (1.89)	1.12 (.65)	.91 (.84)

TABLE 13
 Repeated Measures ANOVA Table, Latency of Response

<u>Source of Variance</u>	<u>df</u>	<u>Mean Squares</u>	<u>F Ratio</u>	<u>F Prob.</u>
Between Groups (D)	2.	18.861	1.72	.20
S/D	27.	10.952		
Categories (C)	6.	7.906	4.52	.005
DC	12.	1.735	.99	.46
S/D/C	162.	1.749		

TABLE 14

Means and Standard Deviations, Length of Response in Seconds

<u>Categories</u>	<u>Depressed</u> (n = 10)	<u>Psychiatric Control</u> (n = 10)	<u>Normal</u> (n = 10)
I.	9.98 (5.64)	12.43 (10.71)	11.03 (3.92)
II.	9.78 (7.24)	11.63 (10.94)	14.15 (9.69)
III.	7.98 (4.08)	12.33 (11.26)	10.55 (4.52)
IV.	5.90 (3.45)	8.18 (8.52)	7.55 (3.81)
V.	4.85 (3.64)	7.65 (9.04)	6.45 (4.26)
VI.	7.48 (5.28)	11.33 (9.81)	9.50 (5.08)
VII.	7.65 (3.50)	12.90 (17.01)	8.90 (3.88)
Total	8.50 (4.90)	12.09 (12.08)	10.81 (5.03)

TABLE 15

Repeated Measures ANOVA Table, Length of Response in Seconds

<u>Source of Variance</u>	<u>df</u>	<u>Mean Squares</u>	<u>F Ratio</u>	<u>F Prob.</u>
Between Groups (D)	2.	190.678	.52	.60
S/D	27.	370.208		
Categories (C)	6.	121.462	13.68	.001
DC	12.	11.058	1.25	.26
S/D/C	162.	8.877		

TABLE 16

Means and Standard Deviations, Length of Response in Words

<u>Categories</u>	<u>Depressed</u> (n = 10)	<u>Psychiatric Control</u> (n = 10)	<u>Normal</u> (n = 10)
I.	28.83 (14.41)	35.68 (22.80)	36.86 (12.52)
II.	26.20 (17.48)	28.33 (22.66)	41.10 (25.08)
III.	20.53 (8.10)	30.00 (22.94)	29.65 (11.27)
IV.	15.73 (10.18)	19.45 (16.14)	22.08 (10.83)
V.	10.95 (8.11)	16.48 (16.49)	17.65 (11.59)
VI.	24.40 (17.36)	27.65 (20.07)	31.13 (18.92)
VII.	19.95 (7.19)	29.28 (22.56)	29.38 (9.59)
Total	20.94 (9.83)	26.69 (19.92)	29.69 (12.82)

TABLE 17

Repeated Measures ANOVA Table, Length of Response in Words

<u>Source of Variance</u>	<u>df</u>	<u>Mean Squares</u>	<u>F Ratio</u>	<u>F Prob.</u>
Between Groups (D)	2.	1383.209	.90	.42
S/D	27.	1534.886		
Categories (C)	6.	1332.182	21.52	.001
DC	12.	62.987	1.02	.44
S/D/C	162.	61.903		

TABLE 18

Means and Standard Deviations, Words per Second of Responses

<u>Categories</u>	<u>Depressed</u> (n = 10)	<u>Psychiatric Control</u> (n = 10)	<u>Normal</u> (n = 10)
I.	3.00 (.52)	3.17 (.48)	3.41 (.50)
II.	2.81 (.61)	2.66 (.42)	3.09 (.59)
III.	2.76 (.65)	2.59 (.30)	2.88 (.36)
IV.	2.63 (.49)	2.61 (.46)	3.00 (.57)
V.	2.23 (.61)	2.34 (.57)	2.77 (.43)
VI.	3.92 (.91)	2.62 (.59)	3.24 (.86)
VII.	2.75 (.55)	3.00 (.84)	3.57 (.84)
Total	2.63 (.66)	2.46 (.34)	2.81 (.33)

TABLE 19

Repeated Measures ANOVA Table, Words per Second of Response

<u>Source of Variance</u>	<u>df</u>	<u>Mean Squares</u>	<u>F Ratio</u>	<u>F Prob.</u>
Between Groups (D)	2.	3.241	1.92	.17
S/D	27.	1.686		
Categories (C)	6.	2.583	2.73	.01
DC	12.	.862	.91	.54
S/D/C	162.	.946		

TABLE 20
Means and Standard Deviations, Post Role Play Ratings

	<u>Depressed</u> (n=10)	<u>Psychiatric Control</u> (n=10)	<u>Normal</u> (n=10)
Realism	4.30 (.67)	4.00 (1.41)	4.70 (.48)
Self-evaluation, role play performance	3.00 (.82)	3.20 (.63)	3.60 (.52)
Self-evaluation, recent behavior	2.00 (.94)	3.20 (1.14)	3.80 (.79)
Self-evaluation, optimal behavior	3.20 (.92)	4.20 (1.03)	4.20 (.79)

TABLE 21

ANOVA Table, Realism Ratings

<u>Source of Variance</u>	<u>df</u>	<u>Mean Squares</u>	<u>F Ratio</u>	<u>F Prob.</u>
Between Groups	2.	1.2333	1.38	.207
Within Groups	27.	.8963		

TABLE 22

ANOVA Table, Self Evaluations of Role Play Performance

<u>Source of Variance</u>	<u>df</u>	<u>Mean Squares</u>	<u>F Ratio</u>	<u>F Prob.</u>
Between Groups	2.	.9333	2.10	.142
Within Groups	27.	.4444		

TABLE 23

ANOVA Table, Self Evaluation of Recent Behavior

<u>Source of Variance</u>	<u>df</u>	<u>Mean Squares</u>	<u>F Ratio</u>	<u>F Prob.</u>
Between Groups	2.	8.4000	9.000	.001
Within Groups	27.	.9333		

TABLE 24

ANOVA Table, Self Evaluation of Optimal Behavior

<u>Source of Variance</u>	<u>df</u>	<u>Mean Squares</u>	<u>F Ratio</u>	<u>F Prob.</u>
Between Groups	2.	3.3333	3.95	.031
Within Groups	27.	.8444		

difference was apparent. This lack of difference may be due in part to a "modesty effect," the fact that no subjects, including the normals, rated themselves at the highest level on this item. On the subjects' evaluation of their actual recent behavior, a significant effect ($F = 9.00, p < .001$) was found. Post-hoc analysis found the depressed group significantly lower on this self-rating than the other two groups, which did not differ significantly from each other. On the self-rating of optimal level of functioning over the past year, a significant effect ($F = 3.95, p < .05$) was found, but post-hoc analyses discerned no significant differences between the three groups.

On all three self-evaluation ratings, results were in the predicted direction, with depressed subjects rating themselves lower than the other groups, and the normals rating themselves highest, but the results were not always statistically significant.

Correlational analyses. Correlational analyses were carried out to further illuminate the relationship of self-ratings, component ratings, and control variables to the dependent measure of greatest interest in the study, overall rating of social skill. Correlations of the self-evaluations, with raters' overall skill ratings, are shown in Table 25. Self-ratings of performance on the role-play and of actual performance in real life were significantly correlated with judges' external ratings of social skill. Also of interest, in evaluating the validity of the role-play ratings, is the .58 correlation between subjects' ratings of their performance on the role-play items, and their ratings of their actual recent behavior. These results indicate that subjects viewed

TABLE 25
 Intercorrelations of Self-ratings, Judges' Overall
 Skill Ratings

	<u>1.</u>	<u>2.</u>	<u>3.</u>
1) Self-rating, role play performance			
2) Self-rating, recent behavior	.580***		
3) Self-rating, optimal behavior	.350*	.455**	
4) Judges' overall skill rating	.336*	.366*	.170

One-tailed significance levels

* $p < .05$

** $p < .01$

*** $p < .001$

their performance on the role-plays as a valid measure of their real-life performance, and tend to support the validity of judges' ratings of the role-plays.

The relationship of components, and ratings of skill, was also investigated by correlational analyses (see Table 26). High skill ratings were significantly negatively related to latency, and positively related to length of response in both seconds and number of words. Components appeared to contribute to, but not define effective responding.

Correlational analyses were also made to rule out the contribution of extraneous variables to social skill performance. The correlations are shown in Table 27. Age was not significantly correlated with the skill ratings, which minimizes concern over the small age differences in groups, at a statistically nonsignificant level, apparent in Table 2. However, both educational attainment and Shipley scores were significantly, and highly, correlated with skill ratings. To assess whether these strong correlations might have affected the result reported above of group differences on many of the skill measures, analyses of covariance were computed for each of the seven categories of behavior and the mean of the ratings across categories, with separate analyses for education and Shipley scores. For each category, and with each covariate, significant covariate effects were found. In addition, the results reported above, of significant effects due to diagnostic group for Categories II, IV, V, VI, and VII, and overall mean ratings, were replicated for each covariate. The lack of a significant difference between groups on Categories I and III was also found for each

TABLE 26
 Intercorrelations of Component Ratings, Judges' Overall
 Skill Ratings

	<u>1.</u>	<u>2.</u>	<u>3.</u>	<u>4.</u>
1) Latency in seconds				
2) Length in seconds	-.156			
3) Length in words	-.275	.955***		
4) Words per second	-.40*	-.49**	-.32	
5) Skill	-.461**	.321*	.528***	.135

One-tailed significance levels

* $p < .05$

** $p < .01$

*** $p < .001$

TABLE 27
 Intercorrelations of Background Variables, Judges' Overall
 Skill Ratings

	<u>1.</u>	<u>2.</u>	<u>3.</u>
1) Age in years			
2) Education in years	.203		
3) Shipley	-.001	.626***	
4) Skill	.130	.521**	.560***

Two-tailed significance levels

*p < .05

**p < .01

***p < .001

covariate. These results, together with the fact that the groups were initially approximately equated on education and Shipley scores, suggest that the findings of group differences on level of social skill were not confounded by levels of education or Shipley scores.

Estimation of the magnitude of effects was also provided through these analyses of covariance. The multiple R^2 , computed for the analyses of covariance of overall skill with education and Shipley scores, were .55 and .56, respectively. Thus, over half of the total variance on judges' ratings of social skill could be accounted for through the variables of either education or Shipley score, and subjects' group membership. Since the R^2 for education and Shipley scores alone, based on their Pearson product-moment correlations with overall skill, were .27 and .31 respectively, about an additional 25% of the total variance could be accounted for by subjects' group membership.

C H A P T E R V I I

DISCUSSION

The results of the present study strongly suggest that social skills deficits are characteristic of severe psychopathology in general, and not merely depression in particular. Both depressed and nondepressed psychiatric control patients consistently were rated as less skillful than normals over five categories of behavior, comprising a broad variety of social situations. In no case did the psychiatric control and depressed patients differ significantly from each other on level of skill as rated by the role-plays.

The results appear to be of a magnitude that is clinically, as well as statistically, significant. Diagnostic groupings accounted for about 25% of the variance on total level of social skill. The inclusion of either educational attainment, or vocabulary, as a second variable accounted for about 25% in additional variance.

As noted in the literature review, previous studies reporting lower levels of social skill in depressed subjects as compared to psychiatric controls have suffered from methodological problems, such as failing to analyze psychiatric control subjects separately from normal controls (Libet, Lewinsohn, and Javorek, 1973), or by comparing depressives to psychiatric controls who were not demonstrated to actually suffer any psychological distress or impairment (Youngren and Lewinsohn, 1980; Lewinsohn, Mischel, Chaplin, and Barton, 1980). The current study is the only project known to have compared clinically

depressed patients with clinically impaired psychiatric control patients and normals on social skills measures.

The results of the present study are consistent with those of Curran, Miller, Zwick, Monti, and Stout (1980) who found that social skills deficits ranged across a broad variety of diagnostic categories. They also are compatible with these prior results, in that patients' problems in social skills appear to commonly include overaggressiveness, as well as problems with passivity and overcompliance.

Because of the instructional set subjects were given, to make the "best response they were capable of," the differences found in the current study also appear to be more readily interpreted as reflecting actual skill, as opposed to performance deficits, than are results of past research. Many past studies have either involved observation of subjects' actual performance, or asked subjects to report on their typical responses.

The finding of the greatest differences between the two patient groups and normals on items measuring positive social skills--giving and receiving compliments, introducing oneself, and initiating social activity--is somewhat consistent with the findings of Youngren and Lewinsohn (1980). These researchers found that depressives reported consistently lower levels of positive social interaction than controls, while such differences were not apparent in such areas as negative assertion and conflict. However, their study measured actual levels of these behaviors in recent lives, while the present study assessed level of competence in such interactions. Their study also reported these low levels of positive social interaction as uniquely character-

istic of depressives, while both patient groups in the present study had these lower levels.

The finding of a lack of differences between the groups on several of the negative assertion categories suggests that treatment programs emphasizing helping patients to engage in successful positive interaction is likely to be more effective than programs emphasizing negative assertion skills, i.e., how to refuse requests. At an anecdotal level, it appeared that a number of the normal women had greatest difficulty with the negative assertion items. When interviewed after the study, they tended to minimize the importance of these behaviors. Many of these women appeared to be quite interpersonally effective and psychologically healthy. Most reported successful lives as wives, parents, and workers, and many were working as volunteers in a hospital during some of their spare time. Clinicians, who may fail to appreciate the base rates in the general population of assertiveness difficulties, may incorrectly attribute patients' depression to a "deficit" common to many normal, unimpaired women.

The skills in positive assertion, and initiating social contact, which both patient groups were deficient in appears to be important in reciprocally rewarding interchanges. Gracefully giving and receiving compliments is probably more rewarding to others than reactions of apathy, jealousy, and self-criticism in these situations. Failure to demonstrate interest in others, and to make oneself interesting, in interactions such as introductions and initiating social activities is also probably minimally rewarding to others. Poor skills in these areas may lead to decreased levels of these positive interactions with

others, and may contribute to rejection by others.

One finding does point to a difference between depressed and non-depressed patients in some aspects of social skills. While depressed and nondepressed patients did not differ from each other in their rating by judges of level of social skill, they appeared to have different kinds of problems with their responses. In negative assertion situations, depressed patients were somewhat more likely to be overly passive than overly aggressive in their responses. In contrast, nondepressed psychiatric control patients were much more likely to be overly aggressive than overly passive. Thus, while both groups may have similar levels of impairment, these are expressed in rather different styles. Depressives might be likely to be treated unjustly by others, and to feel unexpressed resentment. This is somewhat similar to some of the psychodynamic descriptions of depression discussed above, as well as behavioral observations of depressives as passive and unassertive. Nondepressed patients may provoke unnecessary conflict with others because of an overtly hostile, aggressive interpersonal style. While each group may be said to have problems in social skills, each would require very different forms of therapy or skills training.

Anecdotally, there were patients in each patient group who appeared rather passive and overcompliant, and others in both groups who were hostile and sarcastic during the role-plays and interviews. The author speculates that both depressed and nondepressed psychiatric patients in the current sample might have been rejected by others after interpersonal interaction, as Coyne and Hammen have reported in particular for depressives. Coyne's study is the only project to date which has

documented interpersonal reactions to depression which actually used patients as interactional stimuli. Coyne's patients were outpatients, and were divided into depressed and nondepressed groups only on the basis of scores on a depression inventory. It is speculated that among depressed and nondepressed patients of greater severity, interpersonal rejection would cut across diagnostic category.

Data suggest that subjects perceived the role play test as highly realistic, and a good approximation of their actual behavior. In particular, a .58 correlation of subjects' ratings of their role-play interactions, and their actual recent behavior, supports this contention. Significant positive correlations between judges' ratings of skill, and subjects' self-ratings, also suggest that ratings were related to subjects' actual behavior.

A major unexpected finding of the study was the strong relationship between educational attainment, verbal intelligence, and judges' ratings of social skill. The author has found no previous studies which have correlated social skills measures with education or intelligence. Analyses of covariance indicated that this relationship did not confound the results of the current study. However, such a strong potential contaminant of social skills research must be carefully attended to in further research. It is critical that future studies in this area guard against spurious findings of group differences in social skills which may relate only to minor differences in education and vocabulary. Groups should be carefully equated on these variables, and such effects closely examined.

Several characteristics of the current study may have heightened

this finding. First, the subjects varied widely in age and education, and thus varied greatly from past studies of social skills focusing on homogeneous samples of college students. In student samples, there may be an insufficient range of levels of educational attainment and intelligence to adequately assess this question.

The use of audiotaped role-play stimuli, and only auditory encoding of subjects' responses, may also have contributed to this finding. The finding may have been less strong if role-plays had been carried out with live actors, and responses videotaped, so that subjects could have utilized nonverbal communication to a greater extent. This would be a worthy topic of further research.

This finding may relate to past results indicating social class biases in psychiatric diagnoses and treatment (e.g., Hollingshead and Redlich, 1958). Raters in the present study were middle class college students, and may have shown biases toward responses acceptable among well educated, middle class groups.

Another alternative is that level of social skill may be actually related to intellectual competence, and/or access to experiences such as education in which interpersonal skills can be learned. Whatever the explanation, it appears important that in future efforts to train social skills, therapists consider linking the criteria for success to variables such as social class, educational attainment, and intelligence. Social skills criteria developed on college educated samples may not be appropriate for groups with wide variation in background.

An additional finding of interest was that depressed patients showed no unique pattern of deficits on the component measures of

latency, length of response, and rate of speech. These measures did not differ significantly between the three groups. There appeared to be large individual differences within groups which worked against finding statistical significance with a small sample. The lack of differences between groups on components may also be due in part to the fact that few components were systematically studied. The investigator was mainly interested in looking for skills differences. It is possible that a more sophisticated analysis of component behaviors would find reliable characteristic patterns of components among depressives. However, from repeated observation while administering and listening to the role-plays, it appears to the author that there is no single distinct pattern characteristic even of the relatively well-defined, homogeneous group of depressives. Large individual differences appeared to generate many patterns of components among the depressed patients. For example, some were "retarded," with long latencies and soft voices, while others were either anxious or abrasive, and responded loudly and quickly.

One finding did appear to be unique to depressives in the current study, as consistent with past research. Although depressives did not differ significantly from psychiatric controls on objective external ratings of social skill, their patterns of self-ratings were quite different. Depressives consistently rated their behavior, in the role-play and real-life settings, lower than the psychiatric controls. In particular, depressives' ratings of actual recent behavior was significantly lower than the psychiatric controls' ratings, and were extremely low on an absolute level (averaging 2.0 on a 5 point scale). Other

self-ratings were consistently lower among depressives than among the other two groups, but did not achieve statistical significance.

It is not clearly discernible from the present results whether the higher ratings of psychiatric controls, and lower ratings of depressives, as compared to their external ratings, reflect a "self-serving bias" of psychiatric controls, versus a "negative cognitive distortion" among depressives. For all subjects, ratings of performance on the role-play test corresponded well with the judgements of raters. However, both the normals and psychiatric controls rated their actual recent behavior as close to their role-played responses, but their optimal behavior well above their role-played behavior. Depressives tended to rate their optimal behavior as much closer to their role-play performance, and their actual recent behavior as much lower. It is possible that both distortions occurred, with depressed subjects tending to devalue their performance, and nondepressed patients defensively overrating their actual levels of behavior.

What is needed to resolve this question is longitudinal research, with both self-evaluations and external ratings, on depressed and psychiatric control patients. The present results point out the complication of attempting to sort out self-evaluation, social performance, and social skill.

One explanation for the lack of statistically significant differences between the groups on two of the self-ratings, despite differences which appear different on inspection, is a methodological weakness in the present study's self-ratings. Kern and MacDonald (1980) have shown that global self-ratings are not as reliable as ratings by self

or other summed over several items or situations. With the small number of subjects in the current study, global ratings probably produced excessive error variance. A better method of measuring self-evaluation would have been to ask subjects to rate their performance in a number of specific situations, and to sum these ratings across situations.

Several cautions in generalizing from the results of the present study should be noted. Subjects in the patient groups were inpatients, with severe problems, and thus the current results may not be applicable to less severely disturbed patients, i.e., mild depressions. Hospitalized patients were also tested after many had experienced severe recent distress. While efforts were made to maximize patients' performance, through instructional set, and by testing patients near their discharge dates when possible, it is possible that their acute distress decreased role-play performance. Thus, it cannot be stated with certainty that skills deficits predated hospitalization, or that the current findings are purely indicative of skills deficits. The only method of conclusively demonstrating that depression and other psychological disorders are related to a low premorbid level of social skill, which predispose to disorder, would be through prospective, longitudinal research.

The generalizability of results from the role-play method used in the present study is also an important question. Subjects did rate the scenes as highly realistic, and correlations of self-ratings and judges' ratings also supported the validity of the role-plays. However, the role-play task is highly verbal, and the brief response format used

differs from the extended interactions in typical social situations.

The problem for researchers in this area is that there is no other method known to the author which allows the researcher to make the skill-performance distinction. There is no "gold standard" to compare skill ratings with, other than performance measures. As noted above, performance measures based on naturalistic observation, which are often cited as the criteria for judging the validity of role-play performance, are also beset with methodological, ethical, and conceptual problems.

The results of the present study are related to three broader concerns over broader issues in research on depression, and the study of social skills. Issues are similar for other disorders besides depression, but problems in depression research will be emphasized.

One major dilemma is the extent to which psychological variables, such as self-evaluation and level of social skill, predate the onset of definable depression, versus the extent to which such psychological variables are consequences of disorders. Thus, do depressed patients have poor premorbid social skills, and/or self-critical cognitive styles, which increase their vulnerability to breakdown, or are poor social skills and negative self-evaluation epiphenomena resulting from depression? While this is a fundamental question, it is a difficult one to address. Longitudinal research is essential in addressing such problems. One design, used by Weissman and Paykel (1974), involves following patients from their acute disorder into the future as their depression improves. However, since such patients are likely to receive treatments affecting psychological variables, if psychological deficits disappear over time it cannot necessarily be attributed to original

lack of deficit. One variant of this design might be to study subjects who were only receiving somatic treatments, i.e., antidepressant medications. However, patients who respond positively to such medications may not be a random subgroup of depressives as a whole, and would probably be those with higher levels of premorbid adjustment, and greater involvement of biological factors in the etiologies of their depressions.

Prospective longitudinal research would be ideal in evaluating whether skills deficits, or other psychological problems, predate the onset of major depressions. However, this strategy is quite expensive, and generally involves identification of "high risk" groups so that a high percentage of "cases" of depression are found in the sample. However, subjects chosen as at high risk for depression, either on biological grounds, or because of exposure to high levels of certain life stressors, may be atypical of the general population of people who develop depression.

Despite these concerns, longitudinal research on psychological variables as predisposers to depression is essential. Such findings are of interest not only in developing sophisticated theory, but would also provide useful information for preventative efforts. Without such data, it appears likely that a purely biochemical and genetic explanation for the development of depression may achieve increasing predominance. Role-play tests may be a useful method to be included in such research.

A second area of general concern is in our understanding of the nature of social skills. There is actually very little data available

about variables besides social skills which affect social performance. Some of the research cited above has suggested that variables such as anxiety, negative self-statements, and acute depression affect social performance. In the present study, it was found that educational attainment and verbal intelligence were also strongly related to social skill.

Another broad area of variables likely to affect social performance, independent of level of social skills, is social motivation, or people's interpersonal goals. In the study reported above, the goals of the role-play situations were clearly specified, to avoid subjects' having varying, idiosyncratic goals for each situation. Many patients, after their participation in the role-play test, noted that their typical responses to everyday situations would be much less tactful than their responses to the tape, under instruction to give their "best response." When asked why their typical response might differ from the "best response" asked for in the study, some patients cited interpersonal goals which differ greatly from the socially acceptable goals often assumed by behavioral clinicians. Many patients, who demonstrated an ability to deliver appropriate assertive responses, or kind compliments, noted that they might actually be more aggressive, to stay in control; or angry, to put down their spouse; or sarcastic, to belittle the accomplishment of another. Jealousy at another's good fortune was another reaction apparent. Thus, for these individuals, social skills training would seem irrelevant.

One concept which may be of value in viewing social motivation is Alfred Adler's idea of social interest. Social interest is the extent

to which an individual's life goals are defined by cooperation, and sincere concern for one's fellows. Empathy, and contribution to society, is valued by the person with high levels of social interest. At the other end of the continuum is the individual with the life goal of personal superiority.

In interviewing subjects after the role-playing task, it was remarkable how often interpersonal goals were described by the patients which were indicative of striving for personal superiority. A concern with avoiding feeling dominated or controlled by others was one theme mentioned by a number of patients. Indifference and jealousy toward others while giving compliments was another qualitative aspect of the patient groups' responses--an overconcern with self.

Adler noted that "melancholics" and other patients were often lacking in social interest, and described a treatment strategy aimed at dealing with this problem which shows an interesting parallel with the current findings emphasizing positive social skills, and the quality of self-absorption noted by the author among the patient groups. In an interesting twist on Lewinsohn's treatment strategy of increasing depressives' level of pleasurable activity, Adler urged his patients to think about what they could do to bring pleasure to others. This was especially advised as an approach when patients were excessively worried about their problems, as a means of focusing their attention outward.

A final problem, for further development of theories of depression, is the lack of specificity of results to depression found in the current study. Social skills problems may be as common in nondepressed patients as in depressives, when groups are similar in severity of disorder.

This problem of lack of specificity is also apparent in other areas of depression research. For example, helplessness, or lack of perceived control, has been hypothesized to be an important contributor to the development and maintenance of depression (Seligman, 1975). As reviewed by Phares (1976), lack of contingency between outcome and response has also been suggested to contribute to many other problems, such as sociopathy, anxiety, and schizophrenia. Other variables, such as social support, are not only specifically related to depression, but appear to be related to health problems as well (Cobb, 1976).

Akiskal and McKinney (1973) have developed a unifying approach to depression, in which many variables (such as biological predisposition and low levels of reinforcement) lead to a common biochemical pathway which then results in depression. Zubin and Spring (1977) have also advanced a unifying theory of schizophrenia, noting variables affecting "vulnerability" to schizophrenia.

The results of the current study suggest that one class of variables, such as poor social skills, may predispose people to a large number of disorders. Perhaps other variables will be found which predispose specifically to a single disorder, such as depression. Good theory will include specification of which kinds of variables predispose to which kinds of disorders, and also which variables predispose to disorder in general.

FOOTNOTES

¹It should be noted that most patients were receiving psychotropic medications, and that these medications varied by group, depending on patients' diagnoses. Thus, it was impossible to eliminate the possibility that medications affected patients' performance in the study. However, it would be expected that any such medications effects would tend to improve patients' performance, and thus work against the hypotheses presented.

²The psychiatric control group's mean score on the BDI is above the level often used in depression research involving subclinical populations to identify "depressed" subjects. This may seem to raise the question of whether the psychiatric control subjects are merely a "mildly depressed" group. However, analysis of the individual items marked by the psychiatric controls leads to a rejection of this explanation. None of the psychiatric control subjects reported any sadness on the first item of the BDI. Reports of feelings of pessimism and failure appeared to be appropriate for subjects on a psychiatric unit. Other items often logically fit subjects' situations, other than depression (i.e., anorexics noting loss of appetite and weight loss, and patients who had recently attempted suicide marking items about suicide). The meaning of elevated scores on the BDI is probably quite different for these psychiatric patients than for other samples.

A few subjects in the depressed group also had lower BDI scores, due to the fact that they had responded well to the hospital mileau

or antidepressant medication.

This question was further pursued by dividing each of the groups at their median scores on the BDI, and comparing the high and low scorers on the BDI within each group on overall level of social skill. No significant difference was found. Thus, high BDI scorers in the two clinical groups did not differ from each other in level of social skill. In addition, a nonsignificant correlation of only .079 was found between BDI scores and overall skill, among the 20 subjects in the two patients groups.

³Due to heterogeneity of variance, and the skew in the data due to a floor effect, data on latency of response were also analyzed after a transformation of $Y_1 = \text{Natural log}(Y + 1)$, as suggested in Myers (1972). This transformation appeared to appropriately eliminate the problems noted, but the repeated measures ANOVA was still not significant for either groups, or interaction of groups and categories, on the transformed latency measure.

The analysis of this data was undertaken because of the obvious heterogeneity of variance and skew in the latency data. The analysis of variance is actually quite robust in the case of violations of the assumption of heterogeneity of variance (Myers, 1972), and thus lesser violations of this assumption are of minimal importance.

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APPENDIX A

Classification Procedure Used in Lewinsohn's Research

C l a s s i f i c a t i o n C r i t e r i a

Group

Step 1: MMPI (Byrne Scale) Step 2: Grinker Interview Ratings

Depressed	<ul style="list-style-type: none"> a) $L < 60T$ b) $D \geq 70T$ c) $D > Pt$ d) $D > Hy$ 	<ul style="list-style-type: none"> a) One or more factor scores > 1.0 b) Mean factor score $> .70$ c) Depression judged to be the major presenting problem
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Psychiatric Control	<ul style="list-style-type: none"> a) $L < 60T$ b) $Hy \geq 70T$ or $Pt \geq 70T$ c) $D < Pt - 10T$ or $D < Hy - 10T$ 	<ul style="list-style-type: none"> a) Factor one (Dysphoria) $< .70$ b) Participant rated as manifesting emotional difficulties other than depression
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Normal Control	<ul style="list-style-type: none"> a) $L < 60T$ b) Clinical scales $< 70T$ 	<ul style="list-style-type: none"> a) Mean factor score $< .35$ b) No factor score $> .70$
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(From Libet, Lewinsohn, and Javorek, 1973).

APPENDIX B

DMS-III. Diagnostic Criteria for Major Depressive Episode

- A. Dysphoric mood or loss of interest or pleasure in all or almost all usual activities and pastimes. The dysphoric mood is characterized by symptoms such as the following: depressed, sad, blue, hopeless, low, down in the dumps, irritable. The mood disturbance must be prominent and relatively persistent, but not necessarily the most dominant symptom, and does not include momentary shifts from one dysphoric mood to another dysphoric mood, e.g., anxiety to depression to anger, such as are seen in states of acute psychotic turmoil. (For children under six, dysphoric mood may have to be inferred from a persistently sad facial expression.)
- B. At least four of the following symptoms have each been present nearly every day for a period of at least two weeks (in children under six, at least three of the first four).
- (1) poor appetite or significant weight loss (when not dieting) or increased appetite or significant weight gain (in children under six, consider failure to make expected weight gains)
 - (2) insomnia or hypersomnia
 - (3) psychomotor agitation or retardation (but not merely subjective feelings of restlessness or being slowed down) (in children under six, hypoactivity)
 - (4) loss of interest or pleasure in usual activities, or decrease in sexual drive not limited to a period when delusional or hallucinating (in children under six, signs of apathy)
 - (5) loss of energy; fatigue
 - (6) feelings of worthlessness, self-reproach, or excessive or inappropriate guilt (either may be delusional)
 - (7) complaints or evidence of diminished ability to think or concentrate, such as slowed thinking, or indecisiveness not associated with marked loosening of associations or incoherence
 - (8) recurrent thoughts of death, suicidal ideation, wishes to be dead, or suicide attempt
- C. Neither of the following dominate the clinical picture when an affective syndrome is absent (i.e., symptoms in criteria A and B above):
- (1) preoccupation with a mood-incongruent delusion or hallucination (see definition below)
 - (2) bizarre behavior
- D. Not superimposed on either Schizophrenia, Schizophreniform Disorder, or a Paranoid Disorder.
- E. Not due to any Organic Mental Disorder or Uncomplicated Bereavement.

APPENDIX C

Multidimensional Role Play Assessment

(Categories are shown in parentheses)

Modeling Scene: You are sitting at home, watching TV when you get a phone call. It is the town library, asking about an overdue book they say you have checked out. In fact, you haven't been to the library for several months, and did not check out the book in question. The librarian says, "Our records indicate that you checked this book out four weeks ago, and it is overdue with a \$4 fine."

Modeled Response: "I'm sorry--your records must be wrong. I never checked out the book, and haven't been to the library in months. It must have been someone else."

Practice #1: A friend of yours has been knitting on a sweater for several months, and today you see that she has finally finished it. She is wearing it, and it looks very nice. You want to compliment her, so you say...

Practice #2: As you arrive at work one morning you notice a woman employee pulling into the parking space that is assigned to you. You really cannot afford to be late this morning, so you need to use your parking space. The woman rolls down her window and says, "Hi--will it be OK if I park here?"

Practice #3: Your boss has been in the hospital recovering from a minor illness. You're really concerned about him, and go to the hospital to see him. After visiting with him for a while, you prepare to leave. Your boss says, "I really appreciate your stopping by--it was good to see you." And you say...

Practice #4: You are at a drug store, making a small purchase. The cashier rings up your bill, and you pay him with a ten dollar bill. However, when he gives you your change he only counts it out to five dollars. You realize that he has accidentally short-changed you five dollars, so you want to correct him and get the correct change. You say...

#1 (V): After several months of difficult dieting, you have lost 20 pounds. You run into a friend, and she compliments you on your weight loss. She says, "Hey, you look great! I can really tell you lost some weight." You say...

#2 (VII): A friend of yours has just given you two free tickets to a concert this evening by one of your favorite musicians. You decide to ask a woman at work if she would like to go with you. You think that she likes this musician too, since she has several of his albums. You run into her at work, and then after some small talk you say...

#3 (III): A friend of yours wants to borrow your new car for the evening. You really like the car--it doesn't have a scratch on it. You don't want to loan him the car. He says, "Hey, listen, my car is in the shop, so I need to borrow yours tonight. I'll drop you off at your place and take your car tonight, OK?"

#4 (VI): You are at a party, and know very few people who are there. You see a man standing off by himself, and remember that one of your friends told you that this man was very interesting and friendly. You have never met him, but would like to. Eventually, he catches your eye and smiles. You walk over to him--there is a silence--and you say...

#5 (IV): Your boss comes back from vacation. He has lost about 20 pounds, and looks great. You want to compliment him on his weight loss. He stops by your desk to ask you about some work you're doing. He says, "Hey, it's hard to get back to work after a month off, but I had a great time. How are you doing?"

#6 (VI): You have an appointment at a big company for a job interview with Mr. Johnson. As you walk into the office, a receptionist is sitting at a desk. You want to introduce yourself and tell her why you are here. She looks up, smiles, and says, "What can I do for you?"

#7 (II): You and your husband are beginning to work out a budget. Both of you work full time, but money is tight. The discussion turns to your weekly expenses. You think that about \$20 a week is what you need to pay for lunch at work, and other personal expenses, like cigarettes and magazines. You also believe that \$20 a week is reasonable, given your income. Your husband says, "I think you can get by on \$10 a week--you waste a lot of money anyway." You want to stand up for yourself, so you say...

#8 (II): You and another woman at work have been assigned to work together on a job. You have had a lot of experience with this kind of job, and you know pretty well what should be done. Your co-worker suggests a method of starting that you know from past experience will be slow and inefficient. You want to disagree with her suggestion, and propose your own. You say...

#9 (III): Your next-door neighbor has called you repeatedly to ask you to take care of her two young children while she goes out with her boyfriend. She never calls a babysitter, even though you know she could afford to. You have decided that, although she is a good friend, you will not allow her to impose on you again. It is now a Friday evening, and you are settling in for a quiet evening at home. The phone rings. It's your neighbor, and she says, "Hi! Listen, Steve and I are going out tonight. Would you watch the kids for me for a few hours? You're so good with those kids--they love you."

- #10 (IV): A good friend of yours tells you that she just got a promotion at work. You're really happy for her, and want to congratulate her. She needs the extra money and prestige. She says, "Hey, did you hear the news? I just got promoted to manager of our company's new store!"
- #11 (I): You and a woman friend are standing in line to get tickets to a movie that has just come out. You have been waiting in line in the cold for about half an hour, and the line is just starting to move. Two young women walk by and sneak in line right in front of you. You decide you should do something about it. So you go over to them and you say...
- #12 (I): Your boss at work promised you a raise for the good work you have been doing. However, after waiting for three weeks no raise has appeared on your paycheck. You're not sure why. You want to get the money you were promised, so you knock on his office door. He says, "Come in. What can I do for you?"
- #13 (V): You have worked especially hard on a new project at work and it has been going well. Your boss stops by to compliment you. He says, "I've been wanting to tell you, you've done a tremendous job on that new project. You're one of my best employees."
- #14 (IV): An old friend pulls into your driveway with a beautiful new car. You know he has wanted a new car for years, but has done without one. It is just the kind of car you would get if you could afford it. You want to congratulate him. He says, "Hey, what do you think of my new car?"
- #15 (VI): A young couple with two small children has just moved in next door to you. You have been living in the same neighborhood for several years, and like to know your neighbors. After a few days, you decide to stop by to introduce yourself. You walk up to their home, ring the bell, and the husband opens the door. You say...
- #16 (III): A woman at work wants to borrow some money from you. She always seems to be begging small change, and is in debt to a lot of people. You have the money, but don't want to loan it to her. She says, "Say, I'm going out to lunch this afternoon and I need to borrow ten dollars. I promise I'll get it back to you by Friday."
- #17 (II): You are at a party with friends, and the conversation turns to an upcoming election. Someone insults your favorite candidate, and you want to express your disagreement. Your friend is really involved in the discussion. He says, "I think he's incompetent. This country would be in ruin in four years if he is elected."

- #18 (VII): You have decided to phone a close friend and see if she would like to come over to have coffee with you this afternoon. You call her on the phone, and chat about daily events. She doesn't seem to be doing anything now, and is probably free for the afternoon. There is a silence and you decide to ask her about coming by for coffee. You say...
- #19 (II): At a lunch break at work, people are talking about recent movies. Someone criticizes a movie you have just seen and really enjoyed. Your friend has a strong opinion. She says, "I saw that movie, it was junk. I don't see why they even bothered to make it." You feel exactly the opposite, and you want to disagree, so you say...
- #20 (VI): A new woman arrives at work for her first day on the job. She looks shy and lonely, like she doesn't know anybody. You want to introduce yourself and make her feel comfortable, since you'll be working with her. You walk up to her and say...
- #21 (V): You've just been promoted at work, to a position with much higher salary and better working conditions. You are very happy about the change. You run into a friend of yours, and she says, "I heard about your promotion--it sounds great!"
- #22 (VII): You have recently moved into a new neighborhood. You decide to call on some neighbors you have met to invite them over for a barbeque. You decide to call the couple next door first. You have met them, and you think they would probably like to get to know you better. You phone them, and the husband answers. You make small talk for a minute or two, and then there is a silence and you decide to ask him about he and his wife coming by for barbeque. You say...
- #23 (I): A guy at work borrowed ten dollars from you last week. He promised to repay you the next day, but hasn't done it yet. You walk over to his desk to ask him for the money. He looks up at you, smiles, and says, "Hi, what's up?"
- #24 (VII): You have recently bought a new color TV set and are planning to watch a special movie on TV tonight. You see your new neighbor out in his yard, and decide it would be fun to have him over to watch the movie with you. He lives alone, and you know he has a very small black and white TV himself. You walk over to him, and say...
- #25 (IV): You have spent the evening at a dinner party with a group of good friends. The woman who gave the party obviously spent a lot of time preparing the meal, which included four or five tasty dishes. As you are leaving, the woman giving the party walks you to the door. You want to compliment her on her excellent dinner, so you say...

#26 (V): Last Friday you and your husband had a party. It went pretty well. It was probably the best party you have ever given. You run into a neighbor who was at the party. He says, "That was a great party last weekend--the best I've been to for a long time."

#27 (I): You are getting ready to go to sleep, about midnight on a Thursday night. Your neighbor in the apartment above you is playing her stereo very loudly. The bass notes are pounding through your bedroom. You have to leave for work early the next morning, and you're worried that you won't be able to sleep with the noise. So you phone your neighbor to ask her to turn down the stereo. She likes noise, but is generally a reasonable person. You dial the number--the line rings--and you hear, "Hello."

#28 (III): It is getting close to closing time at work, and you are looking forward to going out with your husband to a special concert. Your boss asks you to work overtime, but if you stay overtime you'll have to cancel going to the concert. You've already stayed overtime twice this week. You know that, although your boss would prefer that you stay and work, your job will not be in danger if you refuse. So you want to leave on time tonight. Your boss says, "Listen, some extra work has just come in. We need you to stay overtime--three or four hours."

APPENDIX D

Beck Depression Inventory

Please choose the one statement in each group that best describes the way you feel today.

A.

1. I do not feel sad
2. I feel blue or sad
3. I am blue or sad all the time and I can't snap out of it
4. I am so sad or unhappy that it is quite painful

B.

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

C.

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

D.

1. I am not particularly dissatisfied
2. I feel bored most of the time
3. I don't enjoy things the way I used to
4. I don't get satisfaction out of anything any more
5. I am dissatisfied with everything

E.

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

F.

1. I don't feel I am being punished
2. I have a feeling that something bad may happen to me
3. I feel I am being punished or will be punished
4. I feel I deserve to be punished
5. I want to be punished

G.

1. I don't feel disappointed in myself
2. I am disappointed in myself
3. I don't like myself
4. I am disgusted with myself
5. I hate myself

H.

1. I don't feel I am any worse than anybody else
2. I am critical of myself for my weaknesses or mistakes
3. I blame myself for my faults
4. I blame myself for everything bad that happens

I.

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

J.

1. I don't cry any more than usual
2. I cry more now than I used to
3. I cry all the time now. I can't stop it
4. I used to be able to cry but I can't cry at all even though I want to

K.

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

L.

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

M.

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

N.

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

O.

1. I can work about as well as before
2. It takes extra effort to get started at doing something
3. I don't work as well as I used to
4. I can't do any work at all

P.

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

Q.

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

R.

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

S.

1. I haven't lost much weight, if any, lately
2. I have lost more than 5 pounds
3. I have lost more than 10 pounds
4. I have lost more than 15 pounds

T.

1. I am no more concerned about my health than usual
2. I am concerned about aches and pains or upset stomach or constipation
3. I am so concerned with how I feel that it's hard to think of much else
4. I am completely absorbed in what I feel

U.

1. I have not noticed any recent change in my interest in sex
2. I am less interested in sex than I used to be
3. I am much less interested in sex now
4. I have lost interest in sex completely

APPENDIX E

Shipley Institute of Living Scale
(Vocabulary Test and Abstraction Test)

In the test below, the first word in each line is printed in capital letters. Opposite it are four other words. Draw a line under the one word which means the same thing, or most nearly the same thing, as the first word. A sample has been worked out for you. If you don't know, guess. Be sure to underline the one word in each line that means the same thing as the first word.

sample

LARGE red big silent wet

begin here

(1)	TALK	draw	eat	sleep	sleep
(2)	PERMIT	allow	sew	drive	drive
(3)	PARDON	forgive	pound	tell	tell
(4)	COUCH	pin	eraser	glass	glass
(5)	REMEMBER	swim	recall	defy	defy
(6)	TUMBLE	drink	dress	think	think
(7)	HIDEOUS	silvery	tilted	dreadful	dreadful
(8)	CORDIAL	swift	muddy	hearty	hearty
(9)	EVIDENT	green	obvious	afraid	afraid
(10)	IMPOSTER	conductor	officer	pretender	pretender
(11)	MERIT	deserve	distrust	separate	separate
(12)	FASCINATE	welcome	fix	enchant	enchant
(13)	INDICATE	defy	excite	bicker	bicker
(14)	IGNORANT	red	sharp	precise	precise
(15)	FORTIFY	submerge	strengthen	deaden	deaden
(16)	RENOWN	length	head	loyalty	loyalty
(17)	NARRATE	yield	buy	tell	tell
(18)	MASSIVE	bright	large	low	low
(19)	HILARITY	laughter	speed	malice	malice
(20)	SMIRCHED	stolen	pointed	soiled	soiled
(21)	SQUANDER	tease	belittle	waste	waste
(22)	CAPTION	drum	ballast	ape	ape
(23)	FACILITATE	help	turn	bewilder	bewilder
(24)	JOCOSE	humorous	paltry	plain	plain
(25)	APPRISE	reduce	strew	delight	delight
(26)	RUE	eat	lament	cure	cure
(27)	DENIZEN	senator	inhabitant	atom	atom
(28)	DIVEST	dispossess	intrude	pledge	pledge
(29)	AMULET	charm	orphan	pond	pond
(30)	INEXORABLE	untidy	involatile	sparse	sparse
(31)	SERRATED	dried	notched	blunt	blunt
(32)	LISSOM	moldy	loose	convex	convex
(33)	MOLLIFY	mitigate	direct	abuse	abuse
(34)	PLAGIARIZE	appropriate	intend	maintain	maintain
(35)	ORIFICE	brush	hole	lute	lute

(36)	QUERULOUS	maniacal	curious	devout	
(37)	PARIAH	outcast	priest	lentil	complaining
(38)	ABET	waken	ensue	incite	locker
(39)	TEMERITY	rashness	timidity	desire	placate
(40)	PRISTINE	vain	sound	first	kindness
					level

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APPENDIX F

University of Washington Consent Form

Individual Differences in Interpersonal Behavior

Investigator: William E. Haley, M.S., Psychology Intern,
Department of Psychiatry and Behavioral Sciences.
Phone 543-3510

Faculty Sponsor: Joseph Becker, Ph.D., Professor, Department of
Psychiatry and Behavioral Sciences. Phone 543-3996

Investigator's Statement:

This research project is being carried out in an effort to understand the ways that different people respond to everyday social situations. In particular, the study is aimed at finding out whether people who are depressed have different kinds of difficulties with social situations than other people do. The results of the study may be useful in increasing our understanding of depression and in designing more effective treatments for depression.

The study takes about 45 minutes to complete. The first part of the study involves role-playing responses to everyday situations, such as introducing yourself, or disagreeing with someone. Role-playing is pretending you are actually in a particular situation with someone, and responding as if you were actually there. The experimenter will then tape record your role-played response, and will later compare your responses with those of other subjects. The next part of the study involves filling out several questionnaires, which measure level of depression and typical social behavior. Some questions about whether you have received psychiatric treatment in the past will also be included.

Other than some normal anxiety about role-playing, participation in the study will probably be only mildly stressful. To protect your confidentiality, only a code number, and not your name, will be on the questionnaires and the tape. The experimenter will destroy any reference to your name at the completion of the study. In addition, your responses during the study will be kept confidential, and will not be shared with anyone besides the experimenter and his research assistants. The experimenter plans to keep the data permanently, but will erase the tape of your role-playing after the project is completed if you wish.

You are free to refuse to answer any questions during the study, or to withdraw from the study at any time. Withdrawal from the study, or refusal to participate, will not lead to any penalty, or affect your treatment at the hospital.

The experimenter will answer any questions you have about the research. You can ask questions now, or after the study has begun.

William E. Haley, M.S.

Date

Subject's Statement:

The study described above has been explained to me, and I voluntarily consent to participate in this study. I have had an opportunity to ask questions.

Subject's Signature

Date

Copies to: Subject
Investigator's file

APPENDIX G

Initial Explanation and Instructions

In this study, I am interested in finding out about how well different people can handle certain everyday life situations. I have put together descriptions of a number of everyday social situations, such as giving and receiving a compliment, or saying no to an unreasonable request, or introducing yourself to someone. These have been taped, and are on this tape recorder (points). I will play these descriptions of these situations one by one, and then your job is to pretend you are actually in these situations, and to respond as you might if you were actually speaking to another person. This is called role-playing. I will then tape record your responses, and later have some raters listen to the tapes, and see how different people respond.

As you listen to the scenes, it is important that you try to imagine yourself actually being in the situation described. Imagine that you are actually talking to another person--make it as real as possible. Sometimes it helps people to make up a name for the person you are pretending to interact with--like saying, "Well, John, I think such and such."

If a situation as described does not seem to fit your present life situation, you can change it slightly to make it more realistic for you. For example, some of the scenes talk about situations at work. If you are not currently employed, you could imagine a time when you worked in the past--or any similar situation. Another example is that some of the situations describe an interaction with a husband. If you are not currently married, you could imagine a time when you were--or imagine an interaction with a boyfriend--or any similar situation.

It is important that you speak with feeling, as if you were actually in a real situation, because I will tape record your responses. Of course, the way that you say something can be just as important as what you say.

Before we get started, I will show you how the role-playing works. I'll play the first scene, and I'll respond to the item, to give you an idea of how it works. Then I'll give you several practice items so that you can get used to role-playing.

One more thing. Obviously, your typical response to a particular situation might be influenced by a number of factors, like the mood you are in, or the nature of your relationship with another person. To control for this I am asking all subjects to give the best response--the most effective response--you can make for each situation. Any questions? Okay, now I'll respond to the first one.

(After responding, emphasize to give the best response you can make, and explain that subjects' cue to respond is when the tape recorder is shut off at the end of each scene.)

APPENDIX H
Subject Scene Ratings

1.) How realistic were the scenes, in general?

1	2	3	4	5
Not at all				Very

2.) In general, how well do you feel you did in responding to the situations described on the tape?

1	2	3	4	5
Very poorly		Average		Very well

3.) How well would you have dealt with these kinds of situations, if they had occurred in your real life, over the past month?

1	2	3	4	5
Very poorly		Average		Very well

4.) How well would you have dealt with these kinds of situations, if they had occurred in your recent life, when you were functioning at the best level for you over the past year?

1	2	3	4	5
Very poorly		Average		Very well

APPENDIX I

Post Test Interview Questions

- 1.) Was role-playing these situations in response to the tape easier or harder for you than what it would actually be like in a real interaction? Why?
- 2.) Did you respond as you typically would in these situations, or give the best response you could? How would your typical response differ from the best response you could make while role-playing?
- 3.) Please make any other comments you have about how you felt about role-playing: how role-playing was similar or different from real-life situations; how asking you to give the best response you could make would differ from your typical response.
- 4.) What kinds of interpersonal problems do you have with people? How do these relate to the way you responded to the role-plays?

APPENDIX J
Rating Guidelines

General Principles:

1.) Distinction between assertive, aggressive, and passive responses. Passive responses are ones in which a person fails to stand up for what is fairly their rights. Aggressive responses are responses which fail to appropriately consider the feelings and rights of other people. An assertive response is one in which a person stands up for their own rights, without abusing others.

2.) Each situation described has a major goal. Situations are classified by the nature of these goals. For most situations, besides the major goal, there may be several minor goals, such as:

- a.) Maintaining good interpersonal relationships with peers (i.e., friends, co-workers, spouses).
- b.) Showing appropriate respect to people in power, i.e., bosses.
- c.) Avoiding creating other future problems by one's response to the current situation, i.e., unnecessary fights and arguments.
- d.) Maintaining one's own self-esteem and self-respect (i.e., not lying to get out of a situation).

3.) The best responses will have firm, confident, usually friendly tones of voice. Poorer responses may have a halting, hostile, or soft tone of voice.

A response with an inappropriately long latency, or an overly short or long response can also be a problem.

As a guideline, ratings should correspond to this scale:

- 1 = Ineffective in achieving major goal.
- 2 = Serious problems with major goal, or catastrophic problems in minor goals.
- 3 = Probably achieves major goal, or serious problem in minor goal.
- 4 = Mostly achieves major goal, or a small problem in minor goal.
- 5 = Achieves major goals and minor goals.

All ratings will, to some extent, be a "judgement call." So, it is important to express your opinion about why you feel a response should get a certain rating while we are doing practice or training ratings.

Category I.

Major goal: Request someone to change their behavior, which is either annoying or unfair to the individual. This category of behavior is important because failing to express concerns such as these are likely to lead to the person being treated unfairly, and feeling chronic unexpressed resentment. For many people, such resentments may "leak out" in other interpersonal interactions.

- 11.) 1 = Not asking person to move.
 5 = Using a direct statement, telling person to move, with a firm tone of voice--A response that will get the person to move.

In this situation, subjects can appropriately use a rather strong tone of voice. Future interaction with the other is unlikely, so maintaining good relations with them is less important than in other situations. However, response should not be so harsh as to risk a fight, or embarrassment for responder.

- 12.) 1 = Not mentioning raise.
 5 = Restate situation; tone inquisitive and respectful, not accusatory or blaming; not self-blaming.

Major problems include blaming or accusing boss. Minor problems include self-putdowns, less problems with tone.

- 23.) 1 = Not ask for money--may hint they are broke.
 5 = Reiterate situation, insist that they want money, firm tone of voice. Imply that you want the money now.

Poorer responses leave a question that you really expect money now. Asking for part back is poor, as is relying on guilt or nastiness. Minor hesitations in speech, or problems in tone of voice, are lesser problems.

- 27.) 1 = Not asking her to turn it down.
 5 = Insisting politely but firmly that she turn it down, and stating that she has to get up, and that it is too loud.

Poorer responses overqualify the request, i.e., asking just to turn the bass down, or saying to turn it down "just a little." Other problems include nastiness, relying on guilt, or problems with tone of voice.

Category II.

Major goal: Disagree with other's statement, give your own opinion. This category is important in allowing a person to feel self-assured and independent, and to avoid feelings of resentment which may appear in other interactions.

- 7.) 1 = Gives in to cut in money
 5 = Stands up for \$20, gives reasons why it is a necessary amount, refutes that money is wasted, in a firm but polite tone.

Poorer responses are overly hostile (i.e., likely to escalate to a fight), or very passive (i.e., accepting \$15). Mild irritation, or simply insisting on money without willingness to address budget issues, are lesser problems.

- 8.) 1 = Gives in, i.e., "We can try it your way."
 5 = Explains that suggested method has been tried, failed, and that you know a better way. Not hostile--does not belittle co-worker. Tactful.

Major problems include telling worker to try it their way even though it won't work, or nastiness. Minor problem might be small lack of tact, or hesitancy in supporting their opinion.

- 17.) 1 = Failing to disagree with other's opinion.
 5 = Disagreeing, explaining why, in a friendly, confident manner.

Major problems include only disagreeing, or being hostile, or simply giving a meaningless cliché (i.e., "Everybody is entitled to their own opinion.") Minor problems include weak defense of your candidate.

- 19.) 1 = Fail to disagree (i.e., "Why do you think that?")
 5 = Disagree in a friendly manner, give a reason why liked movie.

Problems as in #17.

Category III.

Major goal: Refuse a request. This category is important in allowing a person to avoid being taken advantage of by others. Once again, continued inability to assertively handle these situations may lead to resentment, which is expressed in other ways.

- 3.) 1 = Allowing other person to borrow car.
 5 = Saying no, stating an honest reason (i.e., car new, no scratches). Tone may be a bit sharp, because of others' method of asking, on this item.

Major problems include offering to drive person anywhere they want; lying or evading reason (i.e., insurance, husband's wishes). Lying creates problems because the other may find out, or put one on the defensive (i.e., "Don't worry, my insurance will cover it.")
 Minor problems include apologetic tone.

- 9.) 1 = Saying yes.
 5 = Saying no, in a friendly manner, addressing long-term issue of other person needing to hire someone.

Poor responses include addressing only the issue for that evening, or being hostile. Minor problems include apologetic tone.

- 16.) 1 = Loaning her any money.
 5 = Refusing honestly, with tact.

Major problems include being very apologetic or lying (these will cause person to return!); minor problems include minor apologetic tone.

- 28.) 1 = Agreeing, willing to stay late.
 5 = Politely saying definitely leaving, stating that has plans, offering to come in early or stay late another day.

Poor responses include anger or martyrdom to boss, minor problems include overapologetic tone, no offer to help at another time.

Category IV.

Major goal: Give a compliment. Giving compliments well is an important part of making oneself rewarding for others to be around, and probably is related to how often other people compliment or reward the person. Expressing jealousy or lack of enthusiasm, for others' successes is aversive to others.

- 5.) 1 = No acknowledgement of weight loss.
 5 = Answering boss' question, and giving a sincere statement noticing weight loss, encouraging it.

Major problems include tactless comments, i.e., about boss having been too heavy, or great lack of enthusiasm. Minor problems include minor lack of enthusiasm, sincerity.

- 10.) 1 = No compliment, or only jealousy.
 5 = Enthusiasm, support, agreement that they deserved it.

Poor responses include tactless comments (i.e., asking why they got it), major lack of enthusiasm. Minor problems include lack of sincerity, enthusiasm.

- 14.) 1 = No compliment, or total jealousy.
 5 = Sincere enthusiasm, recognition they have wanted it or saved for it.

Poor responses include jealousy, great lack of enthusiasm. Minor problems include lack of enthusiasm or sincerity, or statement that they had been waiting or saving for it.

- 25.) 1 = Doesn't compliment meal.
 5 = Warm, enthusiastic compliment of quality, amount of work involved.

Major problems include lacking jealousy, or major put-down. Minor problems include mild self put-down, lack of enthusiasm or sincerity.

Category V.

Major goal: Accept a compliment. Graciously accepting a compliment is important in rewarding others for rewarding them. Poor handling of these situations may be annoying to others and lead others to stop reinforcing or complimenting them.

- 1.) 1 = Failure to acknowledge that you lost, or to thank other for compliment.
 5 = Express thanks for compliment, pleasure that it was given. May include a self-compliment (i.e., it was hard).

Major problems include putting self down or minimizing change. Minor problems include small lack of pride or enthusiasm.

- 13.) 1 = Put self down badly, or fail to show pleasure that boss complimented.
 5 = Expressing thanks for compliment, say something good about self's work.

Major problems include lacking enthusiasm, putting self down. Minor problems include minor disbelief, or lack of enthusiasm.

21. and 26.) As for 1 and 13.

Category VI.

Major goal: Introduce yourself. Successfully introducing oneself is important in beginning social interaction on a "good foot"--people may be strongly influenced by first impressions.

- 4.) 1 = No introduction of self, or no initiating of a real conversation (i.e., "Hi.")
 5 = Friendly, shows interest in other, state name, or that friend mentioned him, make self desirable.

Major problems include putting self or other down, or saying something which could make them uncomfortable. Minor problems include being overly shy, or minor lack of enthusiasm.

- 6.) 1 = No statement of name, or reason for being there.
 5 = Statement of who they are, why they are here, express interest. Perhaps include question of whether person they want to see is in, or ready to see them, or where they should wait.

Major problems include lack of interest, or failing to say why they are there. Minor problems include lack of confidence or enthusiasm.

- 15.) 1 = Failing to either state name, or that other is new to neighborhood.
 5 = States name, that they live close, expresses sincere interest in future contact.

Major problems include lack of enthusiasm, failing to make the person welcome. Minor problems include minor lack of enthusiasm for future contact.

- 20.) 1 = Failing to either state name, or to recognize that other is new on the job.
 5 = Introduces self, welcomes them to the job, shows interest in future contact.

Major problems include responses that may increase the discomfort of the new person (i.e., emphasizing or pointing out their shyness), major lack of interest in future contact. Minor problems include lesser levels of these problems.

Category VII.

Major goal: Initiating social activity. Being able to enthusiastically express interest in others is necessary in being able to initiate positive social interaction, and probably also leads to similar invitations from others.

- 2.) 1 = Failure to invite person to concert.
 5 = State has tickets, name of musician, fact that other likes this musician, expressed interest in going with them in particular.

Major problems include failing to show interest in other person (i.e., acting as if they are nobody special but just an available body to give an extra ticket to). Minor problems include minor lack of enthusiasm, failing to mention that musician is someone other likes.

- 18.) 1 = Failing to ask person over.
 5 = Expressing interest in spending time with other, that it would be enjoyable.

Major problems include lack of enthusiasm, or describing self as lonely and in need of a visit. Minor problems include being over-qualifying about whether other is busy, or minor flaw in enthusiasm.

- 22.) 1 = Failing to ask them over for BBQ.
 5 = Enthusiasm for them coming over, wanting to spend time with them.

Major problems include lack of enthusiasm or interest, or being over-qualifying about whether other wants to come over. Minor problems include lesser degrees of above.

- 24.) 1 = Failing to ask other over.
 5 = Expressing interest in other, movie will be enjoyable, fact of nice new TV.

Major problems include embarrassing other (i.e., pointing out that they only have a tiny black and white TV), or lacking interest in their company. Minor problems include lesser degrees of above.

