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Abstract

In an investigation of the verbal and nonverbal responses of nondepressed individuals to depression, twenty (20) female subjects were videotaped interacting for fifteen minutes with each of two confederates enacting depressed and nondepressed roles. The Beck Depression Inventory was used as a screening measure to obtain nondepressed subjects. Depressed confederates received significantly less Nonverbal Positive behavior than did nondepressed confederates (p .01). However, the number of Direct Support/Verbal Positive statements given to the depressed-role confederates increased significantly across time of interaction (p .01). Subjects exhibited significantly more nervous, "fidgety" behavior with depressed-role confederates than with nondepressed-role confederates. In the nondepressed condition, "fidget" behavior decreased during the time of interaction, while in the depressed condition "fidget" behavior increased across the time of interaction. Results were interpreted as evidence of overall withdrawal from interaction on the part of nondepressed "others," in response to "depressive "displays," as predicted by Coyne's (1976a) interpersonal theory of depression.

Verbal and Nonverbal Responses to Depressive Symptomatology

Recent literature has established the importance of interpersonal factors in the etiology and maintenance of depression. Part of this literature has focused specifically on the verbal and nonverbal behaviors of nondepressed individuals in response to "depressive displays" (i.e., actual depressed subjects, role-playing confederates, written description, etc.).

Coyne (1976a) proposed an interpersonal model of depression whereby the response of "significant others" in the depressive's social environment creates a circular system-maintaining manipulation/counter-manipulation interaction pattern. Specifically, the depressive individual attempts to manipulate reassurance, support and acceptance from his social environment. Over time, the members of the social environment learn that they can reduce this aversive depressive behavior by providing these supportive responses, regardless of whether or not the support is genuine. Due to the fact that depressive misery is powerful in its ability to inhibit direct expression of irritation, hostility or rejection, these feelings may be manifested indirectly in the nonverbal behavior of the nondepressed member of the social environment. This leads to what Coyne describes as

"a growing discrepancy between the verbal content and the affective quality of these responses." This contradictory response is accurately perceived by the depressive, leading to an intensification of depressive symptoms, in an effort to obtain genuine acceptance from his/her significant others.

The purpose of the present study is to examine Coyne's model of depression to determine whether, in fact, a "mixed message" discrepancy between verbal and nonverbal (affective) behavior of normal (nondepressed) "others" in response to depression can be detected and qualitatively described.

Data from studies subsequent to Coyne's (1976a) article have lent qualified support to his hypothesis, and have offered suggestions regarding refinements in methodology for future investigations. Coyne (1976b) found subjects who had interacted with depressed patients over the telephone to be significantly more depressed, anxious and hostile than subjects who had interacted with nondepressed patients or normal controls. However, there was only one significant difference found in a behavioral and content analysis of the conversations between subjects interacting with depressed versus nondepressed targets.

In a study similar to that of Coyne (1976b), Hammen

and Peters (1978) used postinteraction ratings of "interest in further contact," "personal rejection," and "perceived impairment of role functioning" to measure the response of individuals to role-played depression. Those who enacted depressed roles were significantly more strongly rejected than those who enacted nondepressed roles, particularly if their partner for the interaction was of the opposite sex. There was a significant mood by interviewer sex by role-player sex interaction effect. The actual conversational or behavioral content of the interactions was not investigated by Hammen and Peters.

Howes and Hokanson (1979) examined the conversational content of nondepressed individuals in interaction with a same-sex confederate playing one of the following three roles: (a) depressed role, (b) normal role, and (c) physically ill role. They found that "depressed" confederates elicited greater frequencies of both "direct negative" and "direct support" statements than did "nondepressed" confederates. In addition, the "depressive display" of the depressed confederate elicited more silence, less conversation-maintaining "neutrals" and "positives," and an overall lower total number of verbal responses than did the nondepressed confederates. Howes found support in her results for Coyne's (1976a) hypothesis

that depressive behaviors elicit nongenuine reassurance ("direct support") concurrent with criticalness and rejection ("direct negative"). In her discussion of the results Howes stated: "The presence of both positive and negative responding to the depressive provides support for Coyne's description of a 'double message' consisting of both reassurance and rejection."

Hokanson et al. (1980) found that depressives in a "low-power" position in the Prisoner's Dilemma Game tended to blame their nondepressed partners for their devalued position, which in turn elicited ingratiating behaviors from the partners. Depressives in a high-power position elicited generally negative extrapunitive reactions from their partners. In support of Coyne's (1976a) hypothesis, Hokanson notes in his discussion that in a more lengthy interaction the low-power depressive's aversive blaming would likely result in eventual withdrawal and rejection by others. Accordingly, he calls for longer interactions in future studies and concludes his discussion by affirming his belief that depressive "stimulus arrays" may "evoke several competing response tendencies in others."

Coyne (1981) investigated differences in what subjects would say about depressed persons, depending on

whether they were told that their responses would be shared with the depressed individual or kept confidential. There was no interaction effect between "instructional set" (confidentiality versus no confidentiality) and mood (depressed versus nondepressed). However, overall, individuals who had been told that their responses would remain confidential gave a more negative view of target individuals (both depressed and nondepressed targets) than did those who had been told that their responses would be shared. This finding (although not unique to the depressed target condition) is consistent with Coyne's hypothesis that although normals may overtly respond to depression with acceptance, they covertly reject the depressed individual. Most importantly, subjects who had interacted with depressed target individuals were significantly less willing to interact with them in the future, took a significantly more negative view of them, and gave a significantly more negative evaluation of what they would be like "if they really got to know them." Coyne summarizes his results by noting that "depressed persons were perceived negatively and were rejected."

Arkowitz et al. (1982) investigated the interpersonal dynamics of depression in marital couples, using three groups of couples. In the first group of couples the

wives were clinically depressed and in therapy; in the second group of couples the wives were nondepressed outpatients who were in therapy for problems other than depression; the third group consisted of couples in which the wives were neither in therapy nor depressed. In one part of the study the couples were videotaped while interacting for ten minutes about "areas of disagreement" in their marriage, with instructions to "try to come to some resolution." Videotapes were coded for the following four major classes of behavior: "Verbal Positive," "Verbal Negative," "Nonverbal Positive," "Nonverbal Negative." Arkowitz found significantly lower rates of Nonverbal Positive behaviors among depressed women and their husbands than there were among the other two groups of marital couples. There were also some group differences for the variable Nonverbal Negative, although these differences were <u>not</u> specific to depression. Neither of the verbal behavior categories (Verbal Positive/Verbal Negative) discriminated between groups. Arkowitz concluded that the "negative feelings" of husbands toward their depressed wives were not revealed in their verbal behavior, but nevertheless "leaked out" in nonverbal behavior toward the wives. This conclusion was based on "the discrepant pattern of

results for the verbal and nonverbal categories of behavior," and was cited by Arkowitz as support for Coyne's (1976a) theory that depressed individuals elicit negative feelings in others, while simultaneously inhibiting the direct (verbal) expression of those feelings. In his research Arkowitz emphasized the indirectness and subletly of the lack of Nonverbal Positive behaviors on the part of the husbands toward their depressed wives.

Gotlib and Robinson (1982) analyzed video tapes of subjects interacting with depressed and nondepressed target groups for differences in both verbal and nonverbal behavior. Subjects who interacted with depressed targets smiled less often, demonstrated less arousal and pleasantness in their facial expressions, talked about less positive and more negative content in their conversations, and made fewer statements of direct support to the target individuals, as compared to subjects who interacted with nondepressed targets. However, postinteraction self-report measures of mood and willingness for future interaction with the target individual yielded no significant differences between groups. This discrepancy between self-report and observer-rated data is cited by Gotlib as evidence for

Coyne's hypothesis of contradictory messages from nondepressed others.

In the previous literature, the following suggestions have been made for refinement in methodology: (a) analysis of actual conversational and behavioral content during interaction, as opposed to "postencounter" questionnaire measures (Howes and Hokanson, 1979); (b) face-to-face interactions, as opposed to telephone or intercom interactions or written descriptions, etc. (Gotlib and Robinson, 1982); (c) longer interactions (Hokanson et al., 1980); (d) greater control of the "depressive stimulus behavior" ("depressive display"), while still allowing for maximum "natural" responding on the part of the normal subject; and (e) more controlled interactions between depressed and nondepressed subjects (i.e., restriction of the communication and behavior options available during interaction, by use of structured tasks rather than "open-ended" interactions) (Hokanson et al., 1980).

The present study utilizes these recommendations for improvements in methodology by the use of face-to-face video-taped interactions, increased length of interaction (15 minutes), and the use of a "Depressive Events Checklist" to provide a semistructured interaction between

confederate and subject. In addition, due to the fact that previous studies (Hammen and Peters, 1977; Hammen and Peters, 1978) have demonstrated a sex difference in response to depression, the present study will control for this variable by utilizing female subjects only.

Following Coyne's (1976a) model of depression, the following results are hypothesized for the present study: (a) There will be significantly more "nonverbal negatives" in the depressed condition than in the nondepressed condition; (b) there will be significantly less "nonverbal positives" in the depressed condition than in the nondepressed condition; (c) there will be significantly more "direct support" statements in the depressed condition than in the nondepressed condition; for all other "verbal positive" statements other than direct support there will be significantly less in the depressed condition than in the nondepressed condition; (d) there will be no significant difference between conditions for the dependent variable "verbal negative"; (e) there will be significantly more "direct support" type verbal positives in the last two-minute segment of interaction, in the depressed condition; in the nondepressed condition there will be no significant difference in the number of Direct Support events between the first and

last two-minute segments, and (f) there will be significantly more Nonverbal Negatives in the last two-minute segment of interaction than in the first two-minute segment of interaction in the depressed condition. In the nondepressed condition there will be no significant difference in the number of Nonverbal Negatives between the first and last two-minute segments.

Method

Subjects

Twenty (20) female graduate students in theology and/or wives of theology graduate students served as subjects. Mean age of subjects was 26.6 (age range 20 through 25). There were eleven married subjects and nine single subjects. Subjects were randomly selected from a list of students residing in school-owned housing, and were personally interviewed to request their participation in the study. Sampling bias created by willingness/unwillingness to participate was negligible, given that only one prospective subject refused participation in the study. At the time of initial contact with subjects a signed consent for participation was obtained. All prospective subjects were informed in advance that the study would involve video-taping, and were given guarantees of confidentiality. The Beck Depression Inventory was also administered as a screening measure to eliminate depressed subjects. Mean Beck Depression Inventory scores at the time of subject recruitment were 4.95. Each subject was given a date and time to appear for the experiment, along with directions to the site of the experiment.

Confederates and roles. Two male graduate students

in clinical psychology with previous acting experience were trained to enact both depressed and nondepressed/ normal roles. Confederates were matched as closely as possible with regard to age and physical attractiveness. Confederates were trained for a total of 12 hours. Training of confederates utilized a composite and comprehensive definition of depression derived from both research and clinical literature representative of cognitive, interpersonal, and behavioral theories of depression. Diagnostic and Statistical Manual #3 (DSM-3) descriptions of depression were also used. Incorporated into this composite definition of depression were: (a) emotional manifestations (sadness, dysphoric mood, anhedonia, feelings of inadequacy, feelings of helplessness, self-hatred, etc.); (b) cognitive and motivational manifestations (negative expectations, pessimism [Beck, 1979], self-blaming, self-devaluation, loss of motivation, etc.); (c) vegetative and physical manifestations (flat affect, somatic complaints [loss of appetite, insomnia, tired easily, etc.], psychomotor retardation, monotone speech); and (d) interpersonal manifestations (inappropriate self-disclosure [Coyne, 1976b], long response latencies [Libet and Lewinsohn, 1972], hostility toward non-depressed other).

Depressive Events Checklist. The composite definition of depression was utilized to construct a "Depressive Events Checklist" for use in confederate training and to insure standardization and reliability of confederate role performances throughout the study. The checklist contains the following ten "discrete" depressive behaviors: (a) dysphoric mood ("I'm really feeling down today"); (b) anhedonia ("There are things that I used to like to do, but I'm finding that I just don't enjoy them anymore."); (c) helplessness ("I feel like I'm not going to be able to change"); (d) self-hatred ("I don't like myself very much"); (e) pessimism ("I don't think things are going to get any better for me"); (f) self-effacement ("I'm not as smart as the other people in my class"); (g) loss of motivation ("I'm having a hard time getting out of bed in the morning"); (h) somatic complaints ("I'm tired all the time"); (i) inappropriate self-disclosure ("my father used to abuse me when I was little"); and (j) hostility ("you don't really understand how I'm feeling").

The Depressive Events Checklist contains the following five "continuous" depressive behaviors: (a) flat affect; (b) psychomotor retardation; (c) monotone speech; (d) longer response latencies (i.e., several second hesitation in responding to or reacting to

subject's statements); and (e) lower rate of behaviors emitted (i.e., silence is initiated by confederate; confederate less likely to initiate conversation).

The confederates were trained to emit each of the ten "discrete" depressive behaviors one time during each depressed interaction, while displaying the "continuous" depressive behaviors continuously throughout the 15-minute interaction. The goal of confederate training was to make the depressive stimuli as "potent" as possible, without compromising believability or giving the appearance of other psychiatric disorders. Confederates were instructed to begin incorporating the depressive events only gradually over the course of the interaction, and to make the discrete depressive events fit into the content and process of the interaction as much as possible.

This "depressive event" method allowed for greater flexibility of role performances (and therefore, more "natural," and less contrived, interaction), while still insuring the reliability of the "depressive display" across subjects. Reliability of role performance was checked by independent observers who rated randomly chosen performances on the Depressive Events Checklist. Confederates were trained until the independent raters

agreed (percentage agreement = 95%) that each confederate had incorporated the ten discrete events and the five continuous events in five consecutive role-plays. Assignment of confederates to roles was systematically varied so that extraneous confederate attributes (physical attractiveness, etc.), and differences in role performance, were equally represented across both conditions (depressed/nondepressed) and order of condition (depressed/nondepressed; nondepressed/depressed).

The "normal" nondepressed condition was defined as the absence of all of the components of depressive symptomatology listed on the Depressive Events Checklist. For the nondepressed role confederates were instructed to behave interpersonally as they might normally do in any "getting acquainted" situation, making certain that they omitted all of the depressive behaviors included in the depressed role. Normal role performances were also checked for reliability using the Depressive Events Checklist to insure that depressive behaviors were absent.

Apparatus and Setting

Confederate-subject interactions were conducted in a videotape recording studio on the campus of the school where subjects attended. Two RCA Color-Trak

cameras and a split-screen generator were used to provide both facial close-up and full-body pictures. Subjects and confederates sat directly facing each other in two chairs placed approximately four feet apart. Recording equipment and recording personnel were in an adjoining room. A waiting area outside the recording studio was used for administration of preinteraction measures.

Procedure

Each subject completed the Beck Depression Inventory (BDI) immediately preceding interactions with confederates. Mean preinteraction BDI scores were 3.5. All subjects met the BDI criteria for "nondepressed" (BDI total scores less than or equal to 6). Following administration of the BDI, subjects were introduced to the first confederate as if he were another subject who had arrived earlier. Both subject and confederate were escorted to the recording studio and told the following: "This is a study of the 'getting-acquainted' process. We would like you to spend the next 15 minutes getting to know each other. You may talk about anything you wish. You will be told when your time is up."

Following the first interaction subjects were introduced to the second confederate (also disguised

as a subject) and given the same instructions regarding the "getting-acquainted" process. The order of interaction of subjects with confederates (depressed/nondepressed vs. nondepressed/depressed) was varied systematically to balance possible "order effects" across the experimental design.

Following interaction with both confederates, subjects were debriefed by the principal investigator. The debriefing procedure involved informing subjects of the deception (i.e., interacting with confederates), while eliciting subjects' feelings regarding the deception. Subjects and confederates were given opportunity to discuss their previous interactions. The experimenters were prepared for additional debriefing and/or referral to the on-campus counseling clinic for any subjects disturbed by the interactions. However, no subjects evidenced adverse reactions to the deception. The exact nature and purpose of the study, as well as the necessity of deception, were explained. Subjects were requested to refrain from talking about the study to other students.

Dependent Measures

Verbal and nonverbal behavior measures. Tape editing was conducted to place each 15-minute interaction

(total = 40 interactions) in random order, and to isolate the first, middle, and last two minutes of each 15-minute interaction for rating. All subject verbalizations were divided into "response units" using a method similar to that used by Howes and Hokanson (1979) and Blumberg and Hokanson (1983). Subject "response units" were transcribed onto a Verbal and Nonverbal Data Coding Form for later use by raters.

The Verbal and Nonverbal Data Coding Form used in this study was constructed with a combination of items from the conversational analysis categories of Howes (1979) and the "coder's manual" used by Lewinsohn in his (1973, 1976 and 1980) investigations of the dyadic and group interaction behaviors of depressed individuals.

The Verbal and Nonverbal Data Coding Form contains five major verbal behavior coding categories: (a) Direct Support, (b) Conversation Maintenance, Positive Content, (c) Direct Negative, (d) Conversation Maintenance, Negative Content, and (e) Conversation Discontinuance. (For detailed descriptions of the definitions and criteria of these categories, see Appendix C.) For a part of the data analysis the first two categories were collapsed into an overall "Verbal Positive" dependent variable and the latter three categories were

collapsed into a "Verbal Negative" dependent variable.

The Verbal and Nonverbal Data Coding Form contains five bipolar nonverbal behavior coding categories: (a) Eye Contact/gaze avert, (b) Fidgeting/absence of fidgets, (c) Gestures (Illustrator, Adaptor), (d) Body Orientation (toward, away), and (e) Body Posture (open, closed). (For detailed descriptions and definitions of these nonverbal behavior coding categories, see Appendix C.)

Results

Interrater Reliability

Interrater reliability of data coding ranged from a high of .98 (for variables "Verbal Positive," "Open," and "Closed") to a low of .13 (for variable "Away"). Closer inspection of interrater reliability results

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Insert Table 1 about here

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revealed a consistent pattern (see Table 1). Ratings from the nondepressed condition were significantly better than ratings from the depressed condition (mean nondepressed interrater reliability = .79 versus mean depressed interrater reliability = .67). These reliability results would seem to indicate that the raters experienced more difficulty agreeing on classification of behaviors from the depressed interactions than they did agreeing on nondepressed behaviors. This suggests that behavioral responses to depression are more ambiguous, contradictory and unclear than are behavioral responses to nondepressed individuals. In addition, within the depressed condition alone the discrepancy between raters was greatest for negative verbal and nonverbal variables

such as "Away," "Verbal Negative," "Adaptor," and "Closed." This pattern suggests that both verbal and nonverbal negative behaviors exhibited by subjects in response to the depressed-role confederate were subtle and ambiguous and therefore inherently more difficult for raters to judge and categorize. Thus, perhaps depressives do receive unclear and mixed messages from their interpersonal field, as suggested by Coyne (1976a).

Statistical Analysis

Data was analyzed by analysis of variance (ANOVA), in the following ways: (a) dependent variables summed across 15-minute interactions and summed across major dependent variable categories (Verbal Positive, Verbal Negative, Nonverbal Positive, Nonverbal Negative); (b) dependent variables summed across 15-minute segments (interactions); each dependent variable analyzed individually; and (c) each individual dependent variable analyzed across time, by 2-minute segments (comparison of first versus middle versus last 2-minute segment).

Main Effects/15-Minute Results for Major Dependent Variable Categories

There were significant main effects for the major dependent variable categories of Verbal Positive ($p < .01$), Nonverbal Positive ($p < .01$), and Nonverbal

Negative ($p < .05$). Specifically, there were significantly more Nonverbal Negatives in the nondepressed condition than in the depressed condition ($F=6.54$, $p < .05$). This result is significant in the opposite direction of Hypothesis #1. There were also significantly more Nonverbal Positives in the nondepressed condition than in the depressed condition ($F=46.06$, $p < .01$), confirming Hypothesis #2. Contrary to Hypothesis #3, there were a significantly greater number of Verbal Positives in the nondepressed condition than in the depressed condition ($F=48.60$, $p < .01$). However, when the subcategory of Direct Support/Verbal Positives was analyzed separately, there were significantly more Direct Support statements in the depressed condition than in the nondepressed condition, in support of Hypothesis #3. There was no significant difference between conditions for Verbal Negatives, as hypothesized (Hypothesis #4).

Main Effects/15-Minute Results for Individual Nonverbal Behavior Variables

Subjects used significantly more Illustrator gestures in the nondepressed condition than in the depressed condition ($F=44.33$, $p < .01$). Along with the Illustrator gestures, subjects were significantly more spatially oriented (i.e., body orientation "toward")

toward the confederates ($p < .01$) and were more "open" in their body language to the confederates in the nondepressed condition. However, there was not a significantly greater amount of negative nonverbal behavior (i.e., adaptor gestures, "away" body orientation, "closed" body posture) in the depressed as compared to the nondepressed condition. Rather, nondepressed subjects received both more nonverbal positives and more nonverbal negatives than did the depressed subjects. There were no significant differences in the amount of eye contact given by subjects to the depressed and nondepressed confederates. However, the trend was in the direction of more "gaze averts" (loss of eye contact) in the nondepressed condition than in the depressed condition. In other words, "depressed" confederates were given slightly (albeit statistically nonsignificant) more eye contact than were "nondepressed" confederates. Subjects displayed significantly greater amounts of fidgeting behavior with the nondepressed subjects than with the depressed subjects ($p < .05$).

Two-Minute Segment Results (Analysis Across Time of Interaction)

There were significantly more Direct Support Verbal

Positives in the last 2-minute segment of the interactions than in the first 2-minute segment of interaction, for the depressed condition ($p < .01$). There was no significant difference in the number of Direct Support Verbal Positive statements between the first and last 2 minutes of interaction in the nondepressed condition. Alternately stated, there was a significant ($p < .01$) Time X Condition (two-way) interaction, for the variable Direct Support Verbal Positive.

There was a significant decrease in number of Adaptor gestures, across time, in both the depressed and the nondepressed conditions ($p < .01$). However, there was no Condition X Time interaction effect for Adaptor gestures. Similarly, there was a significant ($p < .01$) decrease in the amount of "closed" body posture between the first and last 2 minutes of interaction, with no Condition X Time interaction.

There was a significant two-way interaction between Time and Condition for the dependent variable "Fidget." Specifically, in the nondepressed condition there was a marked decrease in amount of fidgeting behavior across time, while in the depressed condition there was an <u>initial</u> decrease in fidgeting followed by a subsequent <u>increase</u> in fidget behavior during the final

2 minutes of interaction. This was the only variable for which the pattern of decrease in amount of behavior, followed by later increase in that same behavior, was found.

Interaction Effects

In addition to the main effects there were significant two-way interactions between condition (i.e., confederate role) and order of condition for the variables Nonverbal Positive ($p < .01$), Toward (Body Orientation) ($p < .01$) and Open (Body Posture) ($p < .05$) (see Figures 1, 2 and 3). Specifically, there was a

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Insert Figures 1, 2 & 3 about here

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significantly greater amount of Nonverbal Positive (including "Toward" and "Open" body language) behavior when the nondepressed condition occurred first, as compared to when the nondepressed condition occurred second. Alternately stated, subjects consistently displayed significantly less Nonverbal Positive behavior following depressed interactions than they did when nondepressed interactions were first in order. However, the lowest amount of Nonverbal Positive behavior occurred in depressed interactions which followed a nondepressed interaction (see Figure 1).

Discussion

The most pronounced and consistent feature of the results obtained is the higher rate of responding across all dependent variables, for subjects interacting with "nondepressed" confederates. As shown in Table 2, means of dependent variables in the depressed condition are, without exception, lower than means of dependent

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Insert Table 2 about here

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variables in the nondepressed condition. Although this more global and pervasive result was not predicted by the specific hypotheses of this study, it nevertheless emerged as an important finding. It is also a finding which has been commonly reported in the previous literature. Howes and Hokanson (1979) reported an overall lower total number of verbal responses in the depressed condition of their study, as compared to the nondepressed condition.

In the present study, when the number of behaviors in each dependent variable category is expressed as a proportion (ratio) of the <u>total</u> number of responses for that condition (i.e., depressed, nondepressed) there are few significant differences between conditions.

In other words, when the covariate of "total number of responses" is mathematically controlled (i.e., Analysis of Covariance), then the quantitative variable of "total amount of responding" emerges as the most prominent difference between conditions, rather than any particular qualitative differences in pattern or type of response to depression. Again, there is precedent in previous literature for this finding. Coyne (1976b) found only one qualitative difference ("other-self talking ratio") in a content and behavioral analysis of depressed/nondepressed dyad interactions. Shaffer and Lewinsohn (1971), Libet and Lewinsohn (1973), and Lewinsohn (1974) found that depressives elicit fewer of almost all types of behavior from others, as compared to nondepressed controls.

Coyne (1976a) and Hokanson (1979, 1980) predicted that behavioral and content analyses of depressed/nondepressed dyad interactions would yield data on the unique qualities of these interactions, as compared to nondepressed/nondepressed dyad interactions. These qualitative differences were postulated on the basis of prior findings of postinteraction dysphoria and rejection on the part of nondepressed others. The present study lends support to the notion that temporal

rate of responding is the more critical variable in the investigation of depressed/nondepressed dyad interactions and may in fact provide the needed explanation for postencounter dysphoria on the part of nondepressed "others." Particularly interesting in this regard are the "time analysis" results from the present study, which show subjects to be significantly less nonverbally positive following interactions with depressed confederates. Thus, there would seem to be a "behavioral dysphoria" or "nonverbal dysphoria" created in interaction with depressives which carries over into a subsequent interaction with a nondepressed individual. Whether or not this absence of nonverbal positive behavior can be construed as "withholding" on the part of the nondepressed "other" (with all of the connotations of conscious or unconscious punitiveness which the word "withholding" carries) cannot be answered directly by the present study. However, the fact remains that in this study the "depressed" confederates consistently received significantly fewer nonverbal positive behaviors than did the "nondepressed" confederates, regardless of order effects (order of condition) or other mediating variables. This is consistent with the research of

Gotlib and Robinson (1982), who found that subjects who interacted with depressed targets smiled less often, and demonstrated less arousal and pleasantness in their facial expressions. This same result was also found by Arkowitz et al. (1982) in their study of the interactions of depressed wife/nondepressed husband marital couples. Depressed wives received significantly fewer Nonverbal Positive behaviors than did the nondepressed wives in control groups.

Time analysis of data in the present study revealed fidgeting behavior to <u>increase</u> during interactions with depressed confederates, but to <u>decrease</u> during interaction with nondepressed confederates. If fidgeting behavior is taken as a sign of agitation or anxiety, then subjects became increasingly anxious and uncomfortable in response to the depressive display, in contrast to the nondepressed interactions, where they apparently became more comfortable and relaxed as the interactions progressed. This result may, in part, explain the lesser amount of nonverbally positive behaviors directed to depressed confederates (on the theory that agitated behavior and nonverbal positive behaviors are not usually concurrent).

The only other behavior found to increase to a

statistically significant extent during interaction with depressed confederates only was the category of "Direct Support Positive." Previous studies which have used this Direct Support variable have obtained conflicting results. Howes and Hokanson (1979) found that "depressed" confederates elicited greater frequencies of both "direct negative" and "direct support" statements than did "nondepressed" confederates. However, in a later study (Gotlib and Robinson, 1982) subjects made fewer statements of direct support to depressives. The present study replicated Howes and Hokanson (1979) finding that depressed individuals receive more "direct support" statements than do nondepressed individuals. However, unlike Howes and Hokanson, the "depressed" confederates in the present study did not receive more "direct negative" statements than did the "nondepressed" confederates.

The increase in Positive Direct Support verbal statements concurrent with an increase in Fidget behavior and combined with fewer Nonverbal Positives is consistent with Coyne's (1976a) hypothesis of a mixed message of verbal reassurance combined with behavioral (i.e., nonverbal) withdrawal and rejection. More accurately, the present results support Coyne's (1976a)

theory of depression, but in a manner somewhat different than that predicted by the hypothesis of this study or the specifics of Coyne's theory. Coyne postulated that "depressive displays" result in a concommittant and contradictory combination of increase in positive verbal support and nonverbal negative behaviors. The present study did not find this hypothesized contradictory combination of Direct Support Positives concurrent with Nonverbal Negatives. However, the present study did find an increase across time in the number of Direct Support/Verbal Positive statements, combined with fewer Nonverbal Positive behaviors, in the depressed condition. This pattern of results was unique to the depressed condition. Thus, while Coyne's model predicts concomittant increases in both verbally reassuring and nonverbally negative behavior, the present study found an increase in verbal-positive behavior concurrent with a "withholding" of nonverbally positive behavior and an increase across time in anxious, agitated behavior. The subjects did not respond to the aversive depressive display with an increase in nonverbal negative behavior (with the exception of the "Fidget" variable, which did increase across time of depressed interactions), but rather with a lower overall number of all behaviors,

and particularly with a lower number of nonverbal positive behaviors. This lower "activity level" in the depressed condition is consonant with Coyne's (1976a) prediction that depressed behavior results in withdrawal from interaction and eventual rejection by the nondepressed "others" in the depressive's social enviornment. The lower number of all measured behaviors (and particularly the lower number of Nonverbal Positives) in the depressed condition of this study would seem to signify the withdrawal from interaction predicted by Coyne.

To summarize the results for the positive nonverbal behavior variables, subjects who interacted with "nondepressed" confederates used more Illustrator gestures, were more directly oriented toward (i.e., directly facing) the confederate, and were more "open" in their body language than were subjects who interacted with "depressed" confederates. However, contrary to what might be expected, there was not a corresponding greater amount of negative nonverbal behavior in the depressed condition. In fact, there was an actual decrease in the negative nonverbal behaviors of "Adaptor" and "Closed" across time of interaction, for both conditions (no interaction effect). Rather,

there was both more nonverbal positive and more nonverbal negative behavior directed toward the "nondepressed" confederates.

Given that "activity level" (i.e., total amount of behaviors or total amount of responding) is the most clear-cut and consistent difference between depressed and nondepressed interactions, this raises the problem of the meaning or interpretation of this differential rate of responding. Stated differently, what does this difference in behavior rate represent, or signify, in interpersonal terms, about interactions between depressed and nondepressed individuals? Goldfried (1972) has recommended a "sign" approach to behavioral data, as opposed to the "sample" approach. While the sample approach assumes the "construct validity" or "face validity" of overt behavior, the "sign" approach construes overt behavior as an indicator "pointing to" something more basic, fundamental or "underlying" in interpersonal interactions. The "sign" approach to behavioral data acknowledges that it is possible to have two identical observational results (e.g., same number of behaviors counted) which in reality do not mean the same thing about the nature or quality of the interaction observed. Applying

Goldfried's "sign" approach to the present study, it would seem that the most parsimonious interpretation of the observed difference in total number of responses between conditions is that in interaction with the depressed confederates subjects withdrew or "distanced" themselves from the confederate by lowering their responsivity, in general. Thus, the only nonverbal behavior to increase across time of interaction was "Fidgets," which are to be taken as a sign of anxiety, discomfort or agitation created by interaction with the "depressed" confederate.

Despite the fact that some of the particulars of the present study do not precisely fit Coyne's (1976a) interpersonal theory of depression, when Goldfried's "sign" approach to behavioral data is applied, it seems that the overall pattern of results signify a dynamic of withdrawal and withholding and distance from interaction, in response to "depressive display." Thus, these results do support Coyne's prediction of the consequences of depression on the depressive's social field.

Future research needs to be conducted on the question of whether or not it is qualitative or quantitative variables (or both) which distinguish

depressed/nondepressed dyad interactions from nondepressed/nondepressed interactions. Given that qualitative differences have been difficult to find, perhaps future research needs to utilize different verbal and nonverbal dependent variables.

The most important practical implication of the present study is for psychotherapists who work with depressed patients. Therapists need to be aware of their nonverbal, as well as verbal, behavior when with clients. It would be easy for therapists not to reinforce their verbal messages to the depressed client with the appropriate nonverbal messages, in a manner similar to the subjects' responses to the depressed role-playing confederates in this study.

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Table 1

Rank Order of Interrater Reliabilities, by Condition

Nondepressed		Depressed	
1. Closed =	.98	1. Verbal Positive =	.98
2. Open =	.98	2. Fidgets =	.95
3. Verbal Positive =	.98	3. Gaze =	.93
4. Fidgets =	.95	4. Open =	.76
5. Gaze =	.93	5. Closed =	.74
6. Adaptor =	.87	6. Adaptor =	.69
7. Illustrator =	.82	7. Illustrator =	.65
8. Verbal Negative =	.54	8. Verbal Negative =	.58
9. Toward =	.46	9. Toward =	.38
10. Away =	.40	10. Away =	.13
Mean Interrater Reliability for Nondepressed =	.79	Mean Interrater Reliability for Depressed =	.67

(table continues)

Interrater reliabilities for major Dependent Variable categories:

Verbal Positive = .98

Verbal Negative = .56

Nonverbal Negative = .67

Nonverbal Positive = .75

Mean Interrater Reliability for <u>both</u> conditions, across <u>all</u> DV's = .735

Table 2

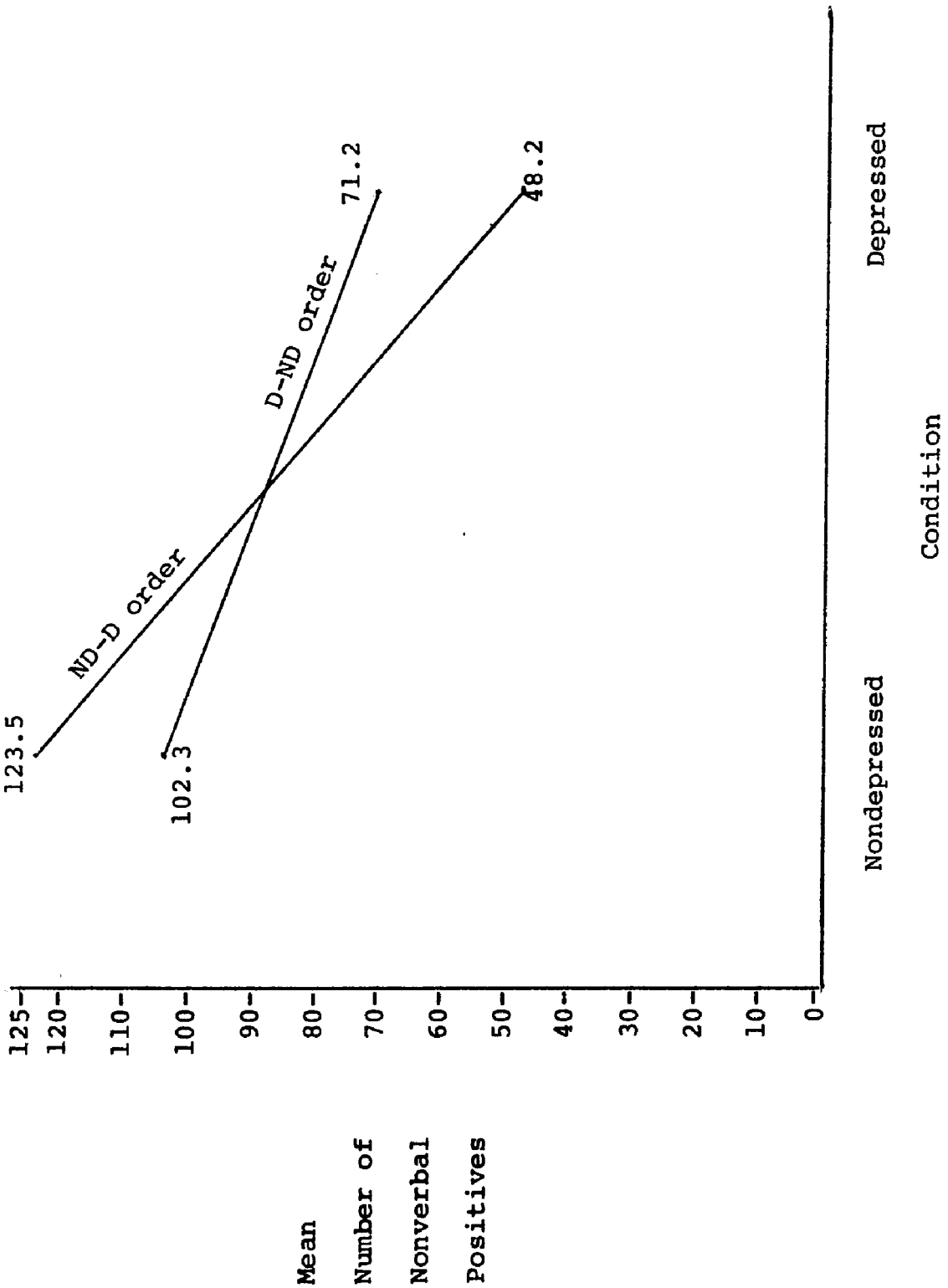
Analysis of Variance of Mean Number of Types of Response to Depressed and Nondepressed Confederates

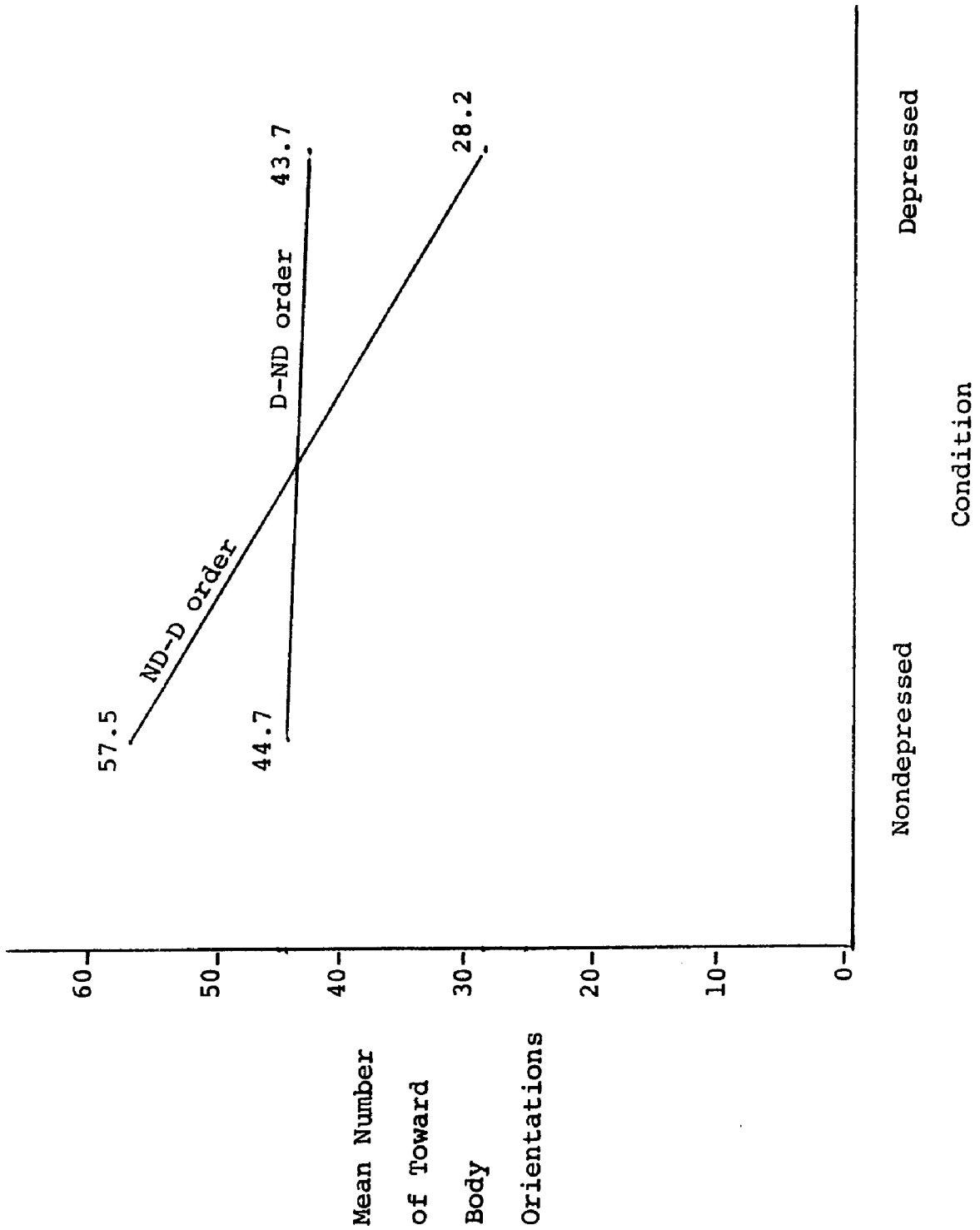
Type of Response (Dependent Variable)	Nondepressed M	Nondepressed SD	Depressed M	Depressed SD	F	
Verbal Positive	67.80	17.16	48.25	10.58	48.60	*.00
Verbal Negative	3.10	2.49	2.55	1.67	.49	.49
Nonverbal Positive	112.90	37.20	59.70	18.72	46.06	*.00
Nonverbal Negative	307.90	134.06	227.50	92.25	6.54	*.02
Illustrator	17.60	8.62	5.30	5.44	44.33	*.00
Toward	51.10	24.36	35.95	16.78	8.65	*.00
Open	44.20	33.15	30.35	21.16	4.99	*.04

(table continues)

Type of Response	Nondepressed M	Nondepressed SD	Depressed M	Depressed SD	F	
Adaptor	33.25	17.00	27.80	12.25	3.15	.09
Away	19.50	20.34	13.95	12.86	1.13	.30
Closed	26.40	35.58	19.60	21.38	.89	.35
Gaze	83.95	26.24	73.15	22.17	2.35	.14
Fidgets	114.80	107.04	93.00	82.60	4.52	*.04

*significant result


Mean Number of Nonverbal Positives
125
120
110
100
90
80
70
60
50
40
30
20
10
0
123.5
102.3
71.2
48.2
ND-D order
D-ND order
Nondepressed
Depressed
Condition


Mean Number of Toward Body Orientations
60
50
40
30
20
10
0
57.5
ND-D order
44.7
43.7
D-ND order
28.2
Nondepressed
Depressed
Condition

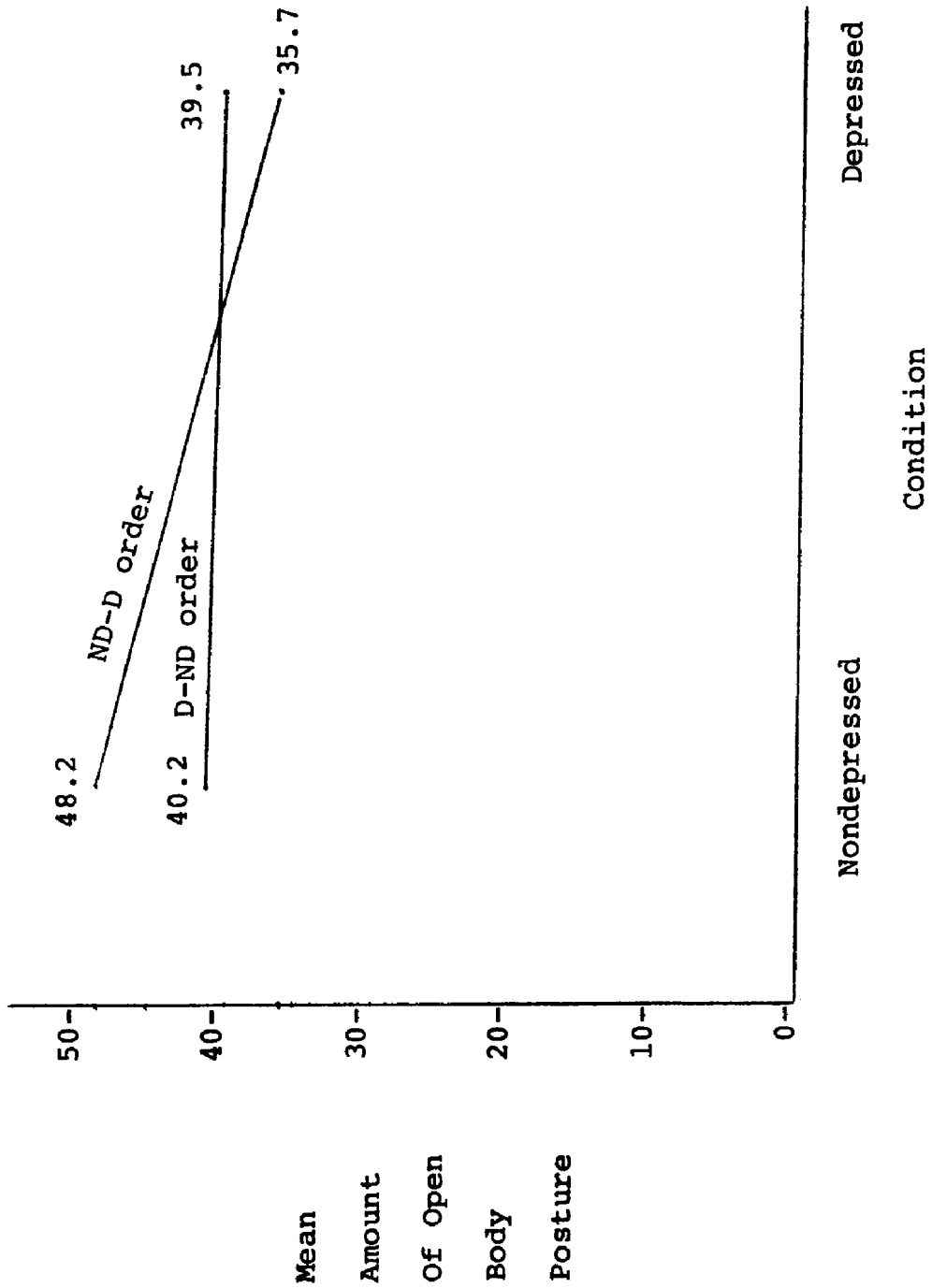

Mean Amount Of Open Body Posture
50
40
30
20
10
0
48.2
40.2
39.5
35.7
ND-D order
D-ND order
Nondepressed
Depressed
Condition

Figure Captions

Figure 1. Interaction effect between order of condition (ND-D vs. D-ND) and condition, for Nonverbal Positives.

Figure 2. Interaction effect between order of condition (ND-D vs. D-ND) and condition, for "Toward" variable (body orientation).

Figure 3. Interaction effect between order of condition (ND-D vs. D-ND) and condition, for "Open" variable (body posture).

SUMMARY FOR DISSERTATION ABSTRACTS INTERNATIONAL

Verbal and Nonverbal Responses to Depressive Symptomatology

Recent literature has established the importance of interpersonal factors in the etiology and maintenance of depression. Much of this literature has focused specifically on the verbal and nonverbal behaviors of nondepressed individuals in response to "depressive displays" (i.e., actual depressed subjects, role-playing confederates, written descriptions, etc.). One theory (Coyne, 1976) proposes that ambivalent and contradictory verbal and nonverbal responses by nondepressed individuals in the depressive's social environment are an important interpersonal factor in depression. The purpose of this study was to test the central thesis of Coyne's (1976) theory that nondepressed individuals give a mixed-message of verbal reassurance and support concurrent with nonverbal distancing and rejecting behavior.

Twenty (20) female subjects were videotaped interacting for 15 minutes with each of two confederates enacting depressed and nondepressed roles. The Beck Depression Inventory was utilized as a screening measure

to obtain nondepressed subjects. Videotapes were rated by two independent raters who coded subject's behavior into categories of Verbal Positive, Verbal Negative, Nonverbal Positive, Nonverbal Negative.

Depressed confederates received significantly less Nonverbal Positive behavior from subjects than did nondepressed confederates. However, one subcategory of Verbal Positive, "Direct Support," increased significantly across time of interaction in the depressed condition only (Time X Condition interaction). There was a second Time X Condition two-way interaction, with one subcategory of Nonverbal Negative behavior, "Fidgets," decreasing significantly during the nondepressed interactions while increasing significantly during the depressed interactions.

Results were interpreted as qualified support for Coyne's (1976) theory, and discussed with regard to therapist behavior with depressed clients.

Literature Review

James Coyne advanced a complex interpersonal theory of the etiology and maintenance of depression in his 1976 article entitled, "Toward an Interactional Theory of Depression." This theory of depression has since been indirectly tested in numerous studies of the response of nondepressed individuals to displays of depression. However, no studies have attempted to directly test the central thesis of Coyne's theory.

Coyne's theoretical argument will be reviewed, followed by a discussion and critical review of the experimental studies which are relevant to his theory.

Coyne (1976a) begins by defining depression as ". . . a response to the disruption of the social space in which the person obtains support and validation for his experience" (Coyne, 1976a, p. 33). In Coyne's theory, "disruptions of the social space" refer to social stressors, usually losses. The loss may be "external" (financial, status) or "internal" (e.g., loss of self-esteem). These losses have the effect on some individuals of eliciting from them demands for reassurances regarding their status in relationships with "significant others." Thus, Coyne conceives of depression as primarily a relationship-maintaining

struggle of the individual, in the face of either actual loss or threatened loss of interpersonal security. This view of depression is similar to that of McPartland and Hornstra (1964), who conceptualized depressive symptomatology as a "set of messages demanding action by others to alter or restore 'the social space.'" Or, as Coyne says, "The depressive uses his symptoms to seek feedback in his testing of the nature of his acceptance and the security of his relationships" (Coyne, 1976a, p. 34).

What eventually makes this "relationship-maintenance struggle" of depressive individuals maladaptive, as well as self-perpetuating, is the response which it draws from others in their social field. Well-intentioned "significant others" of the depressive will attempt to help him/her by responding with direct (and literal, concrete) answers to his/her depressive complaints. In other words, the early depressive symptomatology of helplessness, pessimism, sadness, feelings of inadequacy and lowered self-esteem usually <u>initially</u> elicit responses of support, reassurance and encouragement from those who know the depressive. However, these responses tend to be of a concrete, literal nature and therefore generally do not answer the "real" question

which the depressive is asking (albeit indirectly, at a "meta-level" of communication). This "meta-question" is about the nature and status of the relationships in which the depressed person is in. Drawing on the work of the Palo Alto School of communication theorists to support his theory of the interpersonal dynamics of depression, Coyne says:

> . . . a further problem for the depressed person is that the context, the nature of the relationship between the depressed person and the persons communicating to him, may require time and further messages to be clearly defined. . . . If communication took place at only one level, depression would probably be a less ubiquitous problem. However, the problem is that human beings not only communicate, but communicate about this communication, qualifying or labeling what they say by (a) the context or relationship in which the communication takes place, (b) other verbal messages, (c) vocal and linguistic patterns, and (d) bodily movement [Haley, 1963]. A person may offer support and reassurances with a rejecting tone or he may offer criticism in a supportive and reassuring tone (Coyne, 1976a, p. 34).

Coyne asserts that when depressives are provided only with literal and concrete answers, ignoring their indirect meta-communications, they "will be left feeling rejected, ignored, or brushed aside."

The depressives' contribution to this interpersonal collusion is that when they request feedback from others regarding their position or status in a relationship they inadvertently set up two dynamics which both exacerbate their depression and damage their relationships. First, they have placed both themselves and others in a situation whereby they cannot be sure whether the feedback which they receive is genuine or nongenuine; i.e., whether others "really mean" what they say in response to their depressive display. This depressive paradox is of the order of the so-called "be spontaneous" paradoxes. Coyne describes this "be spontaneous" paradox as applied specifically to the demands of the depressive, as follows: "The depressed person's problem is to decide whether others are assuring him that he is worthy and acceptable because they do in fact maintain this attitude toward him, or rather only because he has attempted to elicit such responses" (Coyne, 1976a, p. 34).

The second dynamic set up by the depressive occurs

when they repetitively and persistently use their symptomatology to test the nature of their acceptance and the security of their relationships. These continual efforts unfortunately (and ironically) carry the "side effect" of destructively affecting the very relationship which the depressive is attempting to "secure." Specifically, this occurs because the symptoms of the depressive are quite aversive to members of their social environment. Coyne notes that depressive misery is potent in its ability to arouse irritation, anger, and hostility in others, while at the same time arousing guilt which effectively inhibits the direct expression of this annoyance and hostility. This "emotional double-bind" situation is the core of the Coyne hypothesis of depression; namely, that depression elicits in others a "double message" of both reassurance and rejection. Coyne describes this mixed-message phenomenon as follows:

> Irritated, yet inhibited and increasingly guilt-ridden, members of the social environment continue to give verbal assurance of support and acceptance. However, a growing discrepancy between the verbal content and the affective quality of these responses provides validation

> for the depressive's suspicions that he is not really being accepted and that further interaction cannot be assured. To maintain his increasingly uncertain security, the depressive displays more symptoms (Coyne, 1976a, p. 34).

The ultimate effect of the depressive's display of suffering is to set up a self-perpetuating pattern of interactions with the environment, whereby non-genuine reassurance and support is being given in exchange for reduction or termination of the noxious depressive behavior. Coyne terms this "a self-maintaining pattern of mutual manipulation" whereby the depressive manipulates sympathy and reassurances from nondepressed others while these individuals "counter-manipulate" the depressive by providing him/her (nongenuinely) with what he/she wants, in exchange for the removal or termination of the noxious depressive behavior. The problem with this manipulation/counter-manipulation process is that the depressed individual becomes aware that the response of others is not genuine and that they have, in fact, become critical and rejecting. When the interpersonal situation reaches this point it has a "system-maintaining" quality:

> Requesting information as to how people really view him is indistinguishable from symptomatic

> efforts. . . . Thus, interpersonal maneuvers directed at changing the emerging pattern become system-maintaining and any genuine feedback to the depressed person is also indistinguishable from manipulations . . . He [the depressive] has played a major role in the creation of this social system, but the emergence of the system has also required the cooperation of others, and once established, it tends to be largely beyond the control of its participants (Coyne, 1976a, p. 35).

Coyne terms this interpersonal process "depressive drift" or "downward depressive spiral." Simply put, it is a mutually-maintained, collusive interpersonal system that perpetuates, rather than terminates, depressive distress.

In the following section studies which provide evidence relevant to Coyne's (1976a) theory will be critically reviewed, followed by a detailed explanation of the purposes and hypotheses of the present study.

Studies Investigating the Response of Others to Depressive Interpersonal Behavior

The majority of the research on the response of nondepressed others to depressive interpersonal behavior has been conducted in the years since Coyne's 1976

article. Most of the studies have in common their focus on the behavioral or affective responses of "normal others" to depressive stimulus behavior (sometimes termed "depressive displays," in the literature). However, these studies vary quite widely in the form of the depressive display used, ranging from written descriptions of depressed individuals to confederates of the experimenter role-playing a depressed role to actual clinically depressed patients.

Coyne (1976b), in his first study of the reaction of others to the behavior of depressed persons, hypothesized a significant difference between the reaction of his subjects to nondepressed individuals and their reaction to depressed patients. More specifically, he hypothesized that there would be significant differences in the qualitative content of the "normal others" reaction to depressed patients and that these differences would be due to their depression specifically, and not to their patient status. To test this hypothesis Coyne utilized a control group of nondepressed patients with other psychological difficulties, in order to insure that normal subjects were responding specifically to the depressive behaviors of the patients, as opposed to other behaviors

characteristic of those in a psychiatric population. An additional purpose of this study was to conceptually relate the obtained pattern of responding of "others" to the symptomatology of depression. Specifically, it was hypothesized that depressed persons would induce depression and hostility in others, and consequently be rejected. Coyne also proposed to do behavioral and content analysis of the interactions, in order to ascertain exactly how (qualitatively) the experimental subjects coped with the depressive behavior.

To test the above hypothesis, Coyne utilized four groups: one group of 45 normal subjects who each conversed on the telephone with one of three "target-group" individuals, either "depressed patient," "nondepressed patient," or "normal control." Patient "target" individuals were selected using cut-off scores on the Zung Self-Rating Depression Scale (SDS), a measure of the intensity of depression, regardless of diagnosis (i.e., no differential diagnosis was attempted). Each subject was randomly paired with a target individual from one of the three target groups, and talked with her on the telephone for 20 minutes. Both normal subjects and target individuals were told that they were involved in a study of the process of getting

acquainted. Following the phone conversations both subjects and target individuals filled out questionnaires concerning mood, perception of the other, and willingness to interact again under different conditions. In addition to these self-report measures, tapes of the interactions were rated by independent judges on measures of "activity level," "approval response," "hope," "genuineness," and "other/self talking ratio."

Post-conversation mood in both subject and target individuals was measured by the Multiple Affect Adjective Checklist. This measure showed subjects who had interacted with depressed patients to be significantly more depressed, anxious, and hostile than were subjects who had interacted with nondepressed patients or normal controls. There was no significant difference between mood response to the nondepressed psychiatric patients and normal target individuals.

This so-called "negative mood induction" result has been replicated in other studies since Coyne's (1976) study (Hammen & Peters, 1977; Hammen & Peters, 1978). The only studies to not replicate Coyne's negative mood induction finding are Howes and Hokanson (1979), and Gotlib and Robinson (1982). Howes and Hokanson (1979) speculated that the response of others to depressives

is mediated by factors other than induced dysphoria, such as "initial negative assessments and perceptions of the depressive."

In his discussion of the "negative mood induction" results Coyne notes that his study failed to reveal exactly what in the behavior of the depressed target individuals created the mood induction in the subjects. However, on the basis of an informal analysis of the audiotapes from the study, he states that "appropriateness of self-disclosure" may be the crucial variable. Specifically, he notes a tendency on the part of depressed individuals to discuss quite personal and intimate matters almost immediately with strangers, despite the fact that this disclosure is often not reciprocated by the nondepressed individual. In Coyne's own words:

> One could hypothesize that it is the nonreciprocal high disclosure of intimate problems by depressed persons that induces the negative affect in others. Listening to the tapes from the study, one is impressed by the willingness of the depressed patients to discuss death, marital infidelities, hysterectomies, family strife, and a variety of other intensely personal matters. Some of these topics of conversation may have an inherently

> mood-inducing quality to them, and this may account for the mood of the subjects. Clearly, more research is needed. (Coyne, 1976b, p. 192)

The behavioral and content analysis measures of the tapes in Coyne's (1976b) study yielded no significant differences in activity, approval responses, hope measures, or genuineness in the response of subjects to the three target groups. The only significant data from the behavioral/content tape analysis was "other-self talking ratio," with subjects talking more about the target individuals than they did about themselves when the target individuals were depressed patients.

Hokanson (1980) noted Coyne's (1976b) lack of significant differences in the actual conversational behavior of his subjects compared to their normal controls and commented on the need for further research in this area as follows:

> Depressives had a strong emotional impact on others . . . . At the same time, however, he did not find clear-cut differences in the content or other qualities of conversation between depressed persons and controls . . . the behaviors (if any) by which these reactions are reflected in the actual encounter with the depressive were not reported. (Hokanson, et al., 1980, p. 321)

In his suggestions for further research in this area Hokanson (1980) continues: "It can be argued that an interactional analysis of interpersonal processes should include not only observations of behavioral rates and affective reactions, but also, of equal import, data pertaining to the content of such interactions" (Hokanson, et al., 1980, p. 321).

Hokanson (1980) makes several comments on aspects of the methodologies employed in previous studies of the content of depressive/nondepressive interactions which he feels contribute to the lack of significant results. In general, he critiques studies previous to his (1980) study for employing methodologies not appropriate to the type of data being sought. Specifically, in previous studies length of interactions between depressed subjects and normal subjects were too short to allow for more characteristic and telling exchanges to occur. Secondly (and related to the first), in most studies the artificiality and contrived nature of the data-gathering environment prompts the exchange of mere social amenities and stereotyped behavior, which has the effect of taking precedence over more characteristic interaction patterns. The possible effect of both of these methodological factors is a "masking" of the more unique

and distinctive interpersonal patterns of the depressed/nondepressed dyad. The solution to this methodological problem, in Hokanson's opinion, is the use of more structured task situations, as opposed to more "open-ended" and unstructured social situations.

Consistent with his own methodological critique, Hokanson (1980) chose to utilize a social psychological laboratory paradigm called "The Prisoner's Dilemma Game," to study the qualitative aspects of depressive interpersonal behavior, as opposed to process variables such as "rate" and "temporal dimensions of responding," which have been previously investigated (Blaney, 1977). Hokanson used the highly structured Prisoner's Dilemma Game to focus the interpersonal interactions of the participants, on the theory that a research paradigm which restricts the number of behavioral and communication options thereby minimizes the opportunity for more superficial interactions which might obscure the characteristic interpersonal style.

In the Hokanson et al. (1980) study three groups of subjects (depressed, nondepressed/other psychological problems, and normal) were selected from a pool of 400 undergraduates, by means of the Beck Depression Inventory, MMPI (Scale #2), and the Fear Survey Schedule. (Criteria

of inclusion/exclusion scores on these measures is reported by Hokanson et al., in their article.) At the actual data-gathering session (approximately one week later), subjects meeting the above inclusion criteria were readministered the Beck Depression Inventory to ensure that they still remained within the inclusion parameters of the study. Out of these selection procedures Hokanson obtained 20 depressed subjects, 20 nondepressed/other problems subjects, and 60 normal subjects.

Hokanson modified the normal Prisoner's Dilemma procedure slightly by introducing a "relative power" manipulation, placing subjects in "high-power" and "low-power" roles in terms of strategic game choices. In addition, Hokanson added his own "Communications Checklist" to the Prisoner's Dilemma Game, administering it at various intervals throughout. The Communications Checklist is a 24-item interpersonal scale with four items in each of the following six categories: (a) extrapunitive, (b) cooperative-friendly, (c) ingratiation, (d) self-devaluation/sadness, (e) self-devaluation/blame other, and (f) helplessness.

Analysis of the Prisoner's Dilemma and Communications Checklist data indicated that when depressed individuals

were in the "high-power" role they tended to be rather exploitive and noncooperative in their interactions with both "nondepressed/other problems" and "normal" individuals. In addition, "high-power" depressed persons also displayed significantly greater amounts of communication of self-devaluation/sadness and helplessness. This display of depressive behaviors had the effect of eliciting noncooperativeness, extrapunitiveness, and expressions of helplessness from their normal partners. Hokanson found no unique Prisoner's Dilemma Game patterns in the depressives interacting from the "low-power" role. However, "low-power" depressives communicated self-devaluation and helpless messages and tended to blame their partners for their devalued condition. This elicited more ingratiating behaviors in their normal partners.

In summary, Hokanson et al. found that depressives displayed different <u>modi operandi</u> in the Prisoner's Dilemma Game procedure, depending on their power status, but yet they communicated essentially similar messages to their partners, regardless of power. These messages were predominantly ones of self-devaluation, sadness, helplessness, and blaming.

Hokanson, et al. (1980) discuss their results as

they relate to Coyne's (1976a) hypothesis that depressive communications may elicit temporary displays of support and concern in others, while eventually resulting in withdrawal and rejection from others. Hokanson found nonsignificant effects across time periods in the low-power depressive data, which would not support Coyne's hypothesis. However, in support of Coyne's hypothesis, Hokanson found that the low-power depressives tended to blame their partners for their condition. This blaming is likely to be found aversive, which would eventually move others to avoid the relationship. This eventual avoidance is consonant with Coyne's theory of the "downward depressive spiral" wherein the depressive, in attempting to elicit support from others, becomes aversive to the point where others withdraw and avoid. Short of actual withdrawal and/or avoidance this "blaming-other" behavior also fits with Coyne's prediction of an ambivalent, "mixed-message" response of both reassurance and rejection from others. In line with this, Hokanson concludes the discussion of his results by noting:

> If, indeed, depressed individuals display different social responses, depending on situational or social role variables, one might expect that

> real-world relations are characterized by contradictory behaviors, mixed messages, emotional ambivalence, and so forth. Such stimulus arrays may indeed evoke several competing response tendencies in others, a situation that a simple reinforcement-punishment view would be hard-pressed to handle. (Hokanson et al., 1980, p. 331)

Howes and Hokanson (1979) examined the responses to depressive interpersonal behavior of 60 subjects (30 male, 30 female) interacting with a same-sex confederate who played one of the following three roles: (a) depressed role (depressive interpersonal behavior and reporting serious deficits in psychological functioning), (b) normal role (normal interpersonal behavior and reporting minimal deficits in functioning), or (c) physically ill role (normal interpersonal behavior and reporting serious deficits in physical functioning). The latter condition was included in order to insure that responses to depression were unique to the "depressive display" itself, rather than other variables of the role-playing condition. In other words, the two control conditions (nondepressed normal and nondepressed physically ill) were employed to isolate subjects' responses to depressive interpersonal

behavior. Howes hypothesized that reliable differences could be found between responses to depressed-behaving individuals and others who reported the same degree of dysfunction but who were not depressed (i.e., the physically ill control condition). Thus, the purpose of Howes' study was to "tease out" that portion of responses to depression that is due to the "depressive display," per se. A second purpose of Howes' study was to provide data describing subjects' actual behavior during the interactions, as opposed to previous studies which analyzed subjects' "postencounter reactions" by means of questionnaires administered following the interaction. Howes hypothesized that the postencounter dysphoria and rejection observed in those who interacted with a depressive would be reflected in the actual conversational content of the subjects.

To test her hypothesis, Howes had a total of 60 subjects interact with one of eight confederates who were trained in the performance of all three roles (depressed, normal/nondepressed and physically ill/nondepressed). Confederates memorized a script for each role and were given instructions concerning nonverbal depressive behaviors. All confederates rehearsed their roles for a minimum of eight hours to maximize the similarity of

their performances and to increase the realism of the roles. Howes validated the role-portrayals by having the confederates observed during randomly selected performances and rated by graduate students who were blind to the roles/conditions. Role-playing performances were rated as to "degree of depression" and "level of functioning." However, no interrater reliability information on confederate role performances was provided by Howes.

To control for the effects of confederate attributes (apart from their roles) Howes randomly assigned one of the eight confederates to each performance. This yielded an even distribution across roles with the effect of "cancelling out" any uncontrolled "confederate effects" (i.e., attributes of the confederates, such as physical attractiveness, were equally represented in all conditions).

Interactions were conducted under the guise of a study on "how people work together to solve problems." All interactions were seven minutes in length and were audio-recorded. Following the interaction both subject and confederate completed the Multiple Affect Adjective Checklist (MAACL), to provide data on emotional reactions to the interaction. The dependent variables of "willingness for future contact" and "subjects'

perceptions of their partners" were also evaluated, utilizing a questionnaire administered following the interaction. Audio tapes of interactions were divided into "response units" and each response unit was placed into one of the following categories on the basis of content:

1. Direct support--reassuring, sympathetic, or empathetic remarks, or any positive appraisal of the confederate or the confederate's attributes.

2. Conversation maintenance, positive content--favorable descriptions, other than of the confederate.

3. Conversation maintenance, neutral content--responses that have no evaluative content.

4. Conversation maintenance, negative content--negative evaluations other than of the confederate.

5. Direct Negative--punishing or insulting remarks or other expressions of displeasure or disapproval directly related to the confederate.

6. Silence--no verbal response to a confederate statement or question.

Ratings of audio tapes were conducted by the senior author and her ratings were compared to those of three graduate students and one faculty member. Percentages of agreement on ratings ranged from 87% to 100%, with

mean agreement between raters on 90% of audio tape content.

Howes found that the depressed and physically ill roles elicited a higher frequency of "direct support" than did the normal role. More significantly, there were some results which were specific to the depressed role; namely, the elicitation of higher frequencies of "direct negative" statements and silences along with lower frequencies of "conversation maintenance/positive," "conversation maintenance/neutral," and total number of verbal responses. According to Howes, the fact that the depressed condition resulted in higher frequencies of "direct support" and "direct negative" responses is especially significant in view of the fact that the overall total of responses was significantly lower in the depressed condition, relative to the control condition.

In her discussion of these results, Howes finds in them support for Coyne's (1976a) hypothesis that depressive behaviors elicit "nongenuine" reassurance (Howes' "direct support" measure) as well as rejection and negative mood (Howes' "direct negative" measure) from others. Howes says:

> Examination of subjects' actual conversational behavior with the "depressed" confederates suggests a pattern quite unlike the conversation styles in other conditions. The person who employs a depressive interpersonal style receives directly supportive responses from others of the magnitude given to an individual with a serious physical illness as well as more directly negative comments than in the control condition. An equally important finding is the elevated amount of silence that depressives receive from others. The presence of both positive and negative responding to the depressive provides support for Coyne's description of a "double message," consisting of both reassurance and rejection. (Howes and Hokanson, 1979, p. 632)

Howes goes on to qualify the above statement by noting:

> However, given the <u>sequential nature</u> of Coyne's hypothesized interaction pattern, more overt expression of rejection (directly negative comments and silences) is present in these results than would probably be <u>predicted by Coyne</u> this early in a relationship (the first 7 minutes). (Howes and Hokanson, 1979, p. 632)

In a study similar to that of Coyne (1976b) Hammen and Peters (1978) investigated the interpersonal consequences of depressed behavior by conducting telephone interactions between same and opposite-sex pairs. In each pair, one person enacted a depressed or nondepressed role. The study focused particularly on the reactions of others to the "depressed" confederates. This study utilized a more naturalistic interaction than the previous (1977) Hammen and Peters study, where rater evaluations were based on written descriptions of depressed individuals. In this (1979) study raters made evaluations of depressed or nondepressed individuals following a brief telephone conversation (similar to Coyne's [1976b] methodology). Apart from exploring the reactions of "others" to depressed persons, Hammen and Peters investigated possible sex differences in reactions to depression. (Results of the Hammen and Peters [1978] study are discussed in the section entitled, "Studies Investigating Sex Differences in Expression of and Response to Depression.") Hammen and Peters propose two possible mechanisms that might account for negative reactions to depressed persons: (a) induced negative mood, or (b) violation of sex-role stereotypes. An additional purpose of the Hammen and Peters study was

to determine which of the above-mentioned two mechanisms was supported by the obtained data.

In their explanation of how the dyadic interactions are structured in their study, Hammen and Peters raise a crucial methodological issue for all studies of the response of normals to depression. Most studies (with the exception of Hokanson [1980], who utilized the highly-structured Prisoner's Dilemma Game) do not control well for the content of the depressive stimulus behavior. Coyne (1976b) speculates that uncontrolled and confounding content variables such as premature, nonreciprocal, or excessively intimate self-disclosure on the part of depressed individuals may be a factor in the negative reactions they elicit from others. Hammen and Peters note that "It remains to be determined whether it is the expression of depressive affect itself, or specific problem-content, or both, which elicit negative mood and reactions in others."

In order to minimize this methodological confound in their study, Hammen and Peters controlled both the timing and the content of the interactions. This was accomplished by having "depressed" and "nondepressed" confederates role-play scripts differing only in affect and attitudes, and not in the actual problem or

life-situations described. To quote Hammen and Peters:

> Students role-played responses of depressed and nondepressed persons to interview questions. They were coached and used script outlines in order to avoid limitations in generalizability due to idiosyncratic responding and to equalize the amount and nature of self-disclosure. . . . the role-play procedures of the present study specifically controlled for level of disclosure in that depressed and nondepressed role players revealed identical personal problems in identical sequences. The differences in conduct were related to expression of depressive affect and cognitions. (Hammen & Peters, 1978, pp. 232, 330)

Howes and Hokanson (1979) noted the same methodological issue as Hammen and Peters (1978) and solved it in much the same manner: ". . . interactions were designed to allow for maximum 'natural' responding on the subjects' part, while controlling the depressive stimulus behavior" (Howes & Hokanson, 1979, p. 625). The "depressive stimulus behavior" was controlled in the Howes and Hokanson (1979) study by means of extensive training of the confederates in order to insure maximum standardization of roles. Training consisted of

memorization of a script for each role, instruction concerning nonverbal behavior, and a minimum of 8 hours of rehearsal.

Strack and Coyne (1983) investigated differences in what subjects would say about depressed persons, depending on whether they were told that their response would be shared with the depressed individual or kept confidential. (In actuality, all responses of the dyad members to each other were kept confidential.) Initial subject selection was carried out through group administration of the Beck Depression Inventory/Short Form to female college students in an introductory psychology class. Those who scored at seven or above on the BDI were designated as "depressed target persons," while those with scores of 2 or less were designated as "nondepressed target persons" or "subjects." All potential participants meeting the above criteria were required to take the BDI/Short Form for a second time, just prior to their participation in the study. Those who no longer met the inclusion criteria of the study were dismissed from the study. Coyne's final sample consisted of 30 depressed target persons, and 90 nondepressed target persons and subjects. All subjects interacted with either a depressed or nondepressed

target person. All subject-target pairs were told that this was a study of "the casual acquaintance process." However, half of the subjects were told that their responses would be kept confidential, while half were told that their responses would be reported to the other member of the dyad. Instructions were given to each dyad that they would have 15 minutes to talk about whatever they liked, for the purpose of getting to know one another. Following their interactions both subjects and target persons were asked to fill out a mood questionnaire, as well as indicate their perception of the other person and their willingness to interact with the other person again. Post-conversation mood in both targets and subjects was measured by the Multiple Affect Adjective Checklist/Today Form. Willingness to engage in future interaction was measured with a 6-point Likert-type scale devised by Coyne for use in his 1976b study. Perception of the other participant was measured with a scale made up of the following eleven bipolar adjectives, on a 6-point continuum: (a) happy-sad, (b) pleasant-unpleasant, (c) negative-positive, (d) good-bad, (e) comfortable-uncomfortable, (f) weak-strong, (g) cold-warm, (h) attractive-unattractive, (i) high-low, (j) active-passive, and (k) friendly-unfriendly.

The results of this Strack and Coyne (1983) study replicated Coyne's (1976b) finding that depression induces a negative mood in "normal others." In this study subjects who had conversed with depressed target persons were found to be significantly more depressed, anxious, and hostile than those who had conversed with nondepressed target persons. In addition, subjects who had conversed with depressed target persons were significantly less willing to interact with them in the future. Interestingly, subjects who had been told that their responses would be shared with the target persons indicated significantly more willingness to interact in the future than did subjects who had been told that their responses would be held confidential. However, this finding was not specific to depressed target persons, but held true for both depressed and nondepressed targets.

The 11 bipolar adjective ratings listed above were combined into a single positive/negative scale. Subjects who interacted with depressed target persons took a significantly more negative view of them than did subjects interacting with a nondepressed target person. As would be expected, subjects who had been told that their response would remain confidential gave a more

negative view of target individuals than did subjects who were told that their responses would be shared.

A rather unique finding of this study was that there was a tendency (although statistically nonsignificant) for subjects who had conversed with a depressed target person to predict more rejection from them than from nondepressed target persons. This prediction of the normal subjects was borne out by the fact that depressed subjects were, in fact, significantly less willing to interact with the subject with whom they had conversed than were the nondepressed persons. Thus, Strack and Coyne (1983) is one of the first studies to find evidence that not only do depressed persons get rejected by "normal others," but that they tend to be rejecting of others as well. In fact, in Strack's data, depressed persons were found to be significantly more rejecting of their partners than were nondepressed persons.

Strack and Coyne (1983) summarized their results as follows: ". . . depressed persons were perceived negatively, induced negative moods in their partners and were rejected" (Strack & Coyne, 1983, p. 805). In addition, Strack notes that these results were obtained with only mildly depressed persons, and argues that the aversiveness of depressive behavior is not limited to

severely depressed hospitalized patients (such as those used in Coyne's [1976b]telephone study of the response of others).

The most important finding of Strack and Coyne (1983) is that subjects conversing with a depressed partner were more likely to indicate that they were influenced by the knowledge that their responses would not be kept confidential, and were less honest as a result. This finding is consistent with Coyne's hypothesis that although normals overtly respond to depression with acceptance, they covertly reject the depressed individual. Coyne relates this finding to his (and others) speculation that depressive behavior is inherently aversive and manipulative, and therefore elicits an overly positive (albeit nongenuine) "countermanipulative" response from others on one level, while simultaneously eliciting rejection on another (meta) level. This theory is further supported by the fact that subjects conveyed a more positive impression and more acceptance when they were told that their responses would be shared with their depressed partners. As stated by Strack:

> . . . depressed persons, like others, may be shown more acceptance than would be expressed privately, but they were not treated especially positive.

> Further research is needed to determine which set of results is most consistent with direct interpersonal responses to depressed persons, and under what circumstances. [italics added] (Strack, 1983, p. 806)

The importance and significance of the Strack and Coyne (1983) study is that it demonstrated that even mildly depressed individuals in brief interaction with others elicit the kind of response which might confirm their already low self-perceptions. Thus, as Coyne says: "Theorists who explain the self-complaints of depressed persons exclusively in terms of cognitive processes may be making a significant misattribution."

In one of the most recent studies of the response of nondepressed persons to depression, Gotlib and Robinson (1982) compared self-report data on depressed/nondepressed dyadic interactions with observer-rated data on these same interactions. Forty nondepressed female undergraduate students interacted for 15 minutes with 20 depressed and 20 nondepressed female undergraduate students (target individuals). Subjects and target individuals were assigned to groups on the basis of Beck Depression Inventory scores with subjects scoring 9 or above classified as target

individuals. Nondepressed subjects were defined as those who scored at 6 or below on the BDI. Interactions were videotaped and videotapes were rated for both verbal and nonverbal behavior. Verbal behavior was rated using the conversation analysis used by Howes and Hokanson in their 1979 study. Nonverbal behaviors of (a) smiling, (b) facial expression (pleasantness and arousal), (c) eye contact, (d) gestures ("illustrators" and "adaptors"), and (e) speech quality were also rated from the videotapes. Self-report data was gathered via the State-Trait Anxiety Inventory, the Multiple Affect Adjective Checklist, and a 7-point scale of willingness for future contact developed by Coyne (1976b). There were no group differences found either for mood or for willingness to engage in further contact with dyad partners. However, there were numerous group differences found on the observer-rated verbal and nonverbal behavior measures (rated from videotapes). Subjects who interacted with depressed target individuals smiled less often, exhibited less arousal and pleasantness in their facial expressions, discussed less positive and more negative content in their conversations, and made fewer statements of direct support to their partners. More importantly, these differences

in verbal and nonverbal behaviors were found to exist from the first 3 minutes of the (15 minute) interactions. Perhaps the most significant finding of this study is the contradiction between the self-report and observer-rated data. Gotlib notes that both of the other two studies which employed both self-report and observer-rated data (Coyne, 1976b, and Howes & Hokanson, 1979) also found discrepancies between these two types of data. Gotlib goes on to cite this discrepancy between observer and self-report data as evidence for Coyne's theory of a contradictory response of overt acceptance concurrent with covert rejection, in the response of "normals" to depressed individuals. In summarizing the results of their study Gotlib and Robinson state: "The present study provides converging evidence that depressives engender <u>qualitatively</u> [italics added] different responses from others than do nondepressed individuals."

Studies Investigating Depressive Interpersonal Behavior

Several studies have focused on the actual interpersonal behavior of depressed individuals (rather than the response of others to this behavior) in an attempt to determine what exactly a depressive does which creates conflict and disturbance in his/her relationships.

One school of researchers has investigated the interpersonal problems of depressives from a behavioral orientation, focusing almost exclusively on "social skills" behaviors. On the theory that social skills deficits are an important antecedent condition for the occurrence of depression, Libet and Lewinsohn (1973) defined and operationalized "social skills" behaviorally and compared groups of depressed and control subjects on these behaviors. Libet and Lewinsohn first defined "social skills" 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" (Libet & Lewinsohn, 1973, p. 302).

From this general definition, Libet has derived a set of five (5) specific operational measures of social skill, each of which is claimed to be both theoretically

and empirically related to the amount of positive reinforcement which an individual elicits from the environment. Although focusing on quite different aspects of interpersonal behavior, the five measures are assumed to have in common an empirical relation to social reinforcement: (a) total rate of behavior emitted/total number of actions per hour; (b) interpersonal efficiency (see Libet and Lewinsohn, 1973, for explanation); (c) interpersonal range (the number of individuals with whom a person interacts); (d) rate of positive reactions emitted (holding activity level, or total number of reactions, constant); and (e) action latency (the amount of elapsed time between a reaction by another person to an individual's verbal behavior and a subsequent action by that individual).

Libet and Lewinsohn's (1973) general hypothesis is that depressed persons are less socially skillful than nondepressed individuals. From this general hypothesis, five specific predictions of the results of the study were derived (all comparisons listed are to nondepressed controls): (a) prediction #1: depressed individuals emit fewer interpersonal behaviors of an initiative type, per hour; (b) prediction #2: depressed individuals elicit more actions from other group members than they

emit to them; (c) prediction #3: depressed persons tend to focus their attention more on one person in a group; (d) prediction #4: depressed persons emit fewer positive reactions; and (e) prediction #5: depressed persons will show a greater amount of elapsed time between a reaction by another person to an individual's action and a subsequent action by the individual (i.e., longer action latencies).

Depressed subjects for the Libet and Lewinsohn study were chosen using a "multiple-criterion" approach consisting of MMPI scores, screening interviews, the Feeling and Concerns Checklist, and "agreement by two interviewers that depression constituted the major psychopathology." Nondepressed psychiatric control subjects were defined by similarly stringent criterion.

Prospective subjects were invited to participate in small groups billed as "experimental study groups for learning about [your] own interpersonal behavior and its effects on others." Libet devised an elaborate system for coding interpersonal behavior (related to the five measures of social skill previously listed) which was used to code the behaviors of depressed individuals in the "interpersonal learning groups." The interrater "reliability coefficients" of this coding

system were reported to range from a high of .995 to a low of .634, depending on the particular category of verbal behavior being coded.

From coding the depressed and nondepressed subjects as they participated for a total of 32 hours in the small groups, Libet and Lewinsohn (1973) found that the overall results support the general hypothesis that "depressed persons are less socially skillful than nondepressed individuals." In addition, the data upheld four (4) of the five (5) predictions made by the authors regarding the interpersonal behavior of depressed as compared to nondepressed persons. Specifically, depressed persons, compared to their nondepressed psychiatric controls, emitted actions at a substantially lower rate, were more restricted in their interpersonal range, emitted fewer "positive" reactions, and had longer action latencies. Libet and Lewinsohn go on to briefly discuss the implications of these findings for the personal relationships of depressives.

In an investigation of the interpersonal behaviors of depressives, Youngren and Lewinsohn (1980) attempted what they termed a "multitrait-multimethod assessment of the functional relation of depression and interpersonal behavior." Seventy-five depressed patients were compared

with sixty-nine nondepressed "high-MMPI" controls and eighty normal controls, in both group and dyadic interactions. The high-MMPI/nondepressed control group was included in order to isolate the relationship between each of the dependent measures and depression, without contamination from "psychological deviation" other than depression. As put forth by Youngren and Lewinsohn: "Thus, if a particular behavior or event is functionally related to depression, it should occur with elevated or reduced frequency in depressed individuals, relative to both nondepressed control groups, and differences between the control groups should be nonsignificant" (Youngren & Lewinsohn, 1980, p. 334).

Depressed subjects were identified using a two-stage screening process involving cutoff scores on selected MMPI scales, followed by interviewer ratings (identical to the subject selection procedure used by Libet and Lewinsohn, 1973).

Both verbal and nonverbal dependent measures were included (in both dyadic and group interaction situations), with data being gathered from self-report, peer rating, and observer's codings of behavior.

The self-report measure used was the Interpersonal Events Schedule, a 160-item list of interpersonal activities

or cognitions concerning interactions. The Interpersonal Events Schedule was constructed from items from the following five scales: (a) Pleasant Events Schedule, (b) Unpleasant Events Schedule, (c) Cambrill Assertion Inventory, (d) Frequency and Intensity of Anxiety Scale, and (e) Social Avoidance and Distress Scale. Undergraduate students were trained as observers and coders for the group and dyadic interactions. Verbal behavior measures were identical to those used by Lewinsohn in a prior (1976) study. Nonverbal behavior measures included eye contact, smiling, facial expression (pleasantness and arousal), and gestures ("illustrators" and "adaptors"). Subjects were also rated by observers on a 21-descriptor scale of "interpersonal style." One hypothesis of the Youngren and Lewinsohn (1980) study was that depressives would differ significantly from nondepressed subjects in self-reported frequency and comfort of social interactions. This hypothesis was in fact supported by the results, with depressed subjects reporting that they engaged less frequently in social activities, and that they were less comfortable in these activities. Depressed subjects also reported that they gave and received "positive interpersonal responses" less frequently and that they

perceived themselves as receiving less "positive social reinforcement" from their interactions. Depressives also reported being less comfortable with assertive behavior and perceiving themselves as obtaining less positive reinforcement from being assertive.

With regard to observer-coded data, no deficits uniquely associated with depression were found, on either verbal or nonverbal behavior measures, in either the group or dyadic interaction settings. Particularly on the verbal interaction measures, depressive's performances were found to be quite similar to that of normals. Youngren and Lewinsohn explain the lack of significant results on verbal measures by noting that depressives are able to interact for brief periods in laboratory settings in a manner which resumbles the verbal behavior of normals.

Depressives' nonverbal behavior in dyadic interactions could not be differentiated from the nonverbal behavior of normals. These results contradicted earlier studies which had found depressives deficient in frequency and duration of eye contact, facial expression, and hand movements.

Depressed subjects were rated significantly more negatively (by both peers and observers) than nondepressed

subjects on measures of interpersonal style during group interactions. However, the precise behaviors responsible for these negative evaluations could not be identified.

Studies Investigating Sex Differences in Response to Depression

The response of normal subjects to depressed males and females was investigated by Hammen and Peters (1977). Following the theory that depression is more "sex-role appropriate" for women than for men, Hammen and Peters hypothesized that depressed males would be more negatively evaluated than would depressed females. A second research question was whether males are rejected for expressing emotionality per se, or whether the specific configuration of depressive symptomatology elicits a greater degree of rejection than does other symptoms, such as anxiety or "blunted affect." It was hypothesized that sex differences would be most pronounced in the depressed condition. In order to answer these two research questions, Hammen and Peters had male and female undergraduate students read one-page descriptions of a male or female student who was experiencing symptoms of either "depression," "anxiety," or "blunted affect." These descriptions were identical in length, sentence structure, and background information, and varied only in terms of affective behaviors described.

As a check on the validity of the descriptions, ten graduate students in clinical psychology read each description and selected the best descriptive term from a list of seven terms provided. According to the authors, "there was 100% consensus that the paragraphs were appropriately labeled "depressed," "anxious," or "flat affect/detached." To control for the possible effects of differences in "severity of impairment" between the case descriptions, nine additional clinical graduate students rated the severity of the psychological reactions depicted on a 5-point scale of "degree of impairment." The case-history vignettes were judged to not differ significantly in severity of impairment in functioning. Following the reading of the descriptions subjects were asked to provide ratings of acceptance/rejection of the individuals described. Specifically, subjects rated: (a) the severity of the reaction; (b) degree of acceptance of the other as acquaintance, co-worker, or close friend; (c) perceived functioning in various roles such as employee, student, "date," and partner in a committed relationship, and (d) recommendations for dealing with the current condition.

Hammen and Peters (1977) results were as follows: On all eight of the ratings of severity, personal rejection, and perceived functioning, the male character

was rated more negatively than the female. These results were statistically significant for three of the eight ratings ("close friend," "student," and "partner in a committed relationship"). Moreover, these sex differences were found primarily in the depressed condition, as opposed to the "anxious" and "blunted affect/detached" condition. This data supports the hypothesis that differences in responses to male and female depression are not merely an artifact of greater overall rejection of males for the display of <u>any</u> psychological distress or emotionality; i.e., that the findings of rejection and negative evaluation are "depression-specific." As summarized by Hammen and Peters themselves:

> These results suggest that emotionality as such is probably not the crucial determinant of the relative rejection of depressed men as compared with depressed women . . . The negative consequences of expressing depressive responses may be strong and unambiguous for college males . . . Further investigation into the causes of rejection of depressed males would be a fruitful research undertaking. (Hammen & Peters, 1977, p. 1000)

In a second study of the interpersonal consequences of depression, Hammen and Peters (1978) utilized men and women enacting a depressed role. The purpose of this study was to obtain further data in support of the idea that "men and women may experience different social consequences of their depression, eventuating in sex differences in the expression of depressive [reactions] and in coping or help-seeking behaviors." Beyond this, the study attempted to provide data on what the actual mechanism might be which results in negative reactions to depressed persons. Hammen and Peters propose three possible mechanisms: (a) induced negative mood, (Coyne, 1976b), (b) violation of sex-role stereotypes (Hammen & Peters, 1977), or (c) inappropriate self-disclosure (Coyne, 1976b). It was hypothesized that: (a) interactions with depressed persons would elicit more rejection and negative evaluation than interactions with nondepressed persons, (b) depressed men would be especially negatively evaluated, and (c) subjects would be more depressed following interaction with depressed persons than following interactions with nondepressed persons.

Sixty-two men and women interacted in all possible combinations of same and opposite-sex dyads, resulting

in a 2x2x2 design with levels of subject sex, role-player sex, and condition (depressed/nondepressed). Instead of employing confederates, Hammen and Peters (1978) trained one-half of the subjects to role-play the depressed role and instructed the remaining subjects in how to "interview" the "depressed" role-players. Both role-players and interviewers were told that they were part of an investigation of "the way people form first impressions" and that they would be interacting with another student over an intercom for about 5 minutes. All participants were assured that they would not meet or interact further with the other member of the dyad.

Since Hammen and Peters (1978) were partly concerned with the effects of "inappropriate" self-disclosure on the response of others to depression, they controlled for both the level and the timing of disclosures by creating script outlines in which depressed and nondepressed role-players revealed identical personal problems in identical sequences. Therefore, the essential difference in content between depressed and nondepressed scripts was related to expressions of affect and cognitions/attitudes, as opposed to differences in actual problems or situations disclosed. Hammen and Peters report the script outline construction and

role-play training, as follows:

> The content of the script outline included the areas of academic interests and career plans, current living situation, friendships and romantic relationships, and leisure activities. The responses provided in the depressed and nondepressed script outlines were highly similar in the extent to which they called for the role-players to reveal the problems and dissatisfactions. The difference between the two scripts lay mainly in the affective responses to, and means of coping with, these difficulties. Specifically, the depressed script was constructed to be resprsentative of various attitudes--including pessimism, helplessness, and negative self-image--that are considered highly characteristic of the depressive syndrome [Beck, 1979]. . . . In the depressed condition, the role-players were instructed to incorporate into their responses such depressive elements as pessimism, negative attitudes about self and future, lack of energy, and maximization of negative events. They were also told that their voices should be slowed down and somewhat heavy and flat. The instructions to the participants in the

> nondepressed condition emphasized the role-players' sensible and realistic recognition of their problems, combined with optimism, positive attitudes about self and the future, and confidence in their ability to cope with these problems. The nondepressed role-players were told they should sound animated and somewhat lively and cheerful. (Hammen and Peters, 1978, p. 324)

The most outstanding and consistent result of this study was that depressed persons of the opposite sex were most strongly rejected. Alternately stated, there was an interaction effect of mood status, role-player sex, and interviewer sex. This effect was particularly strong for male depressed role-player/female interviewer dyads (i.e., stronger than for the reverse combination of female depressed role-player/male interviewer). Given that the quality and timing of self-disclosure was controlled across all conditions, Hammen and Peters cite the above data as evidence to support their hypothesis of the "sex-role stereotype violations" mechanism, as opposed to the "inappropriate self-disclosure" mechanism.

As was expected, both depressed men and depressed women elicited more negative reactions from others than did the nondepressed men and women. In this particular

study, rejection (as reported in post-interaction questionnaire measures) was in the form of lack of interest in further contact, anticipation of difficulties in interactions, and perceived impairment of psychological adjustment and ability to finction in various roles.

Significantly, all of the above measures of rejection were obtained via postinteraction questionnaires. No attempt was made to determine how rejection might manifest itself, either verbally or nonverbally, during the interaction itself.

Finally, the data of the Hammen and Peters (1978) study support the already well-researched finding of "negative mood induction" in the nondepressed members of the depressive's social environment. As predicted by the experimenters, subjects who interacted with a depressed person were themselves significantly more depressed afterwards than were subjects who had interacted with a nondepressed person. More importantly,there was some support for the idea that the mechanism by which rejection of depressed individuals occurs is by "mood induction." This evidence was in the form of a "significant association" between postinteraction mood measures and self-report measures of rejection. However, Hammen and Peters pointed out that "mood induction"

occurred regardless of the sex of either the interviewer or the role-player and " . . . thus, it would appear that induction of negative mood is one of several processes that mediate the rejection of depressed persons."

Present Study

The present study is designed to investigate Coyne's (1976a) theory of "a growing discrepancy between the verbal content and affective quality" of responses given to depressives. Videotapes of subjects responding to a "depressed" confederate will be analyzed for discrepancies between verbal and nonverbal content, as well as for changes in the magnitude of this discrepancy over time (i.e., trend analysis).

Thus, the present study will directly test the hypothesis that depressive stimuli "evoke several competing response tendencies in others" as proposed by Hokanson (1980), and as originally proposed by Coyne (1976a). This will be done by standardizing the depressive stimulus (using a "Depressive Events Checklist") and measuring the "response tendencies" of others, with the hypothesis that there will be competing, contradictory, and ambivalent tendencies in the responses.

In summary, the present study is designed to test the "direct interpersonal responses" (Strack & Coyne, 1983, p. 806) of normal subjects to a display of depressive symptomatology. It is predicted that Coyne's hypothesized "overly positive, countermanipulative" response will be found on a verbal level while hostile, distancing, or rejecting responses will be found on an affective/nonverbal level.

Following the suggestion of Howes (1979), the present study will test the "sequential nature" of Coyne's hypothesis by utilizing a trend analysis of the obtained results (changes in the response of others to depression, across time). It is hypothesized that the number of negative/rejecting responses will increase proportionately across the time of interactions, relative to other responses.

Hokanson et al. (1980) suggested that future research efforts should take the form of "process studies" which describe the interactional qualities of interpersonal relations between depressives and nondepressives, focusing on variables such as "sequential effects," "escalation of positive or negative exchanges," "stable or unstable asympototic behaviors," "ultimate rejection," etc. Although the present study will not

utilize sequential analysis, per se, it will analyze the changes over time of response to depression, utilizing a trend analysis to determine the nature/quality of the changes in response.

The present study will assume that the amount, quality, and timing of self-disclosure by depressives is a contributing factor to the negative response of others to depression and will utilize the effects of this "inappropriate" self-disclosure by incorporating it into the role-playing script of the "depressed" confederate. On the assumption that Coyne's (1976b) assertion that some topics of conversation have an "inherently mood-inducing quality" is correct, the role-playing script of the "normal" confederate will omit any content that could be construed as "inherently depressing," while the "depressed" confederate script will include numerous such topics (e.g., somatic complaints, losses, etc.).

The verbal behaviors of the confederates will be varied between roles/conditions, with the "depressed" confederate exhibiting "premature, nonreciprocal, and excessively intimate self-disclosure" (Hammen & Peters, 1978; Coyne, 1976b). In other words, confederates will be trained to self-disclose certain specified (scripted)

intimate topics while concomitantly exhibiting depressed nonverbal behaviors, as described in the literature on depression.

The present study will utilize a semi-structured social interaction, with the structure being provided by scripting and training the confederates to maintain the interaction within certain specified parameters of topic and content.

The "depressive stimulus behavior" will be controlled and standardized by utilizing a "depressive events" method of verifying both the type and number of "depressive behaviors" which occur during interactions between subject and confederate. (See Method section for a complete discussion.)

Following Hammen and Peters' (1978) assertion that "it remains to be determined whether it is the expression of depressive affect itself, or specific problem content, or both, which elicit negative mood and reactions in others" (Hammen & Peters, 1978, p. 330), the present study will utilize both depressive affect and depressive problem-content (e.g., hypochondriacal complaints) in scripting confederates. This will maximize the effects of the "depressive display" on normal subjects.

The present study will directly apply Libet and

Lewinsohn's (1973) findings to the task of training confederates for the "depressed" roles. Specifically, the confederates will be trained to be somewhat less socially responsive in the depressed role than they are in the nondepressed role. Behaviorally, this will take the form of having confederates in the depressed role maintain a lower overall activity level, emit fewer "positive" reactions to subjects, and be slower in the reactions which they do emit (longer "response latencies").

Finally, the present study will use male confederate/female subject dyads exclusively, due to the well-researched (Hammen & Peters, 1977, 1978) sex differences in response to depressive stimuli.

Acknowledgements

Clinton W. McLemore, Ph.D., my dissertation chairman, believed in my ability to produce a good dissertation at a time when I doubted my own ability. To him I owe thanks for showing confidence in me at a time when self-confidence was at low ebb, and for introducing me to his friend and colleague, Jim Coyne, Ph.D., whose theory of depression this dissertation investigates.

Catherine Smith, Ph.D., was a faithful and loyal friend throughout the entire dissertation process. Her unwavering encouragement, support and friendship were instrumental in helping me through. Without her, I might still be working on the dissertation!

Douglas Hart, Ph.D. labored long and hard with me through the tedium of design, subject recruitment, and data collection. We sometimes despaired together, but also persevered together, at times when the tasks seemed insurmountable and we both wished that we had never heard the words "interpersonal" or "depression."

My mother, Thelma, and my father, Rowland, Sr., (an ex-officio member of the dissertation committee) were always glad to receive news of each state of the dissertation as it was successfully completed. The

achievement of the Ph.D. would have been impossible without the lifetime of good parenting which they have given.

Donna Lynn Burkhart rejoiced with me at seeing two and a half years of work near completion, and was waiting with open arms at the Harrisburg, Pennsylvania airport when I returned from successfully defending the dissertation.

Appendix A

Consent to Participation in
Psychology Research Project

The undersigned hereby agrees to take part in a research study being conducted at Fuller Theological Seminary, Graduate School of Psychology, by Rowland Shank and Douglas Hart, under the supervision of faculty member Clinton W. McLemore, Ph.D.

My signature on this Agreement signifies that I fully understand that my participation in this research requires that I do the following:

1. complete two brief questionnaires regarding my thoughts and feelings;

2. interact with two other individuals in the study while being videotaped, for a total of 32 minutes.

I further understand that the videotapes are for research purposes only, and under no conditions will the tapes or any of their contents be released to anyone other than the individuals involved in this research project, for the purposes of data analysis. This guarantee of confidentiality applies as well to all paper-and-pencil measures used in the study.

While the experimenters cannot explain all aspects of this study at this point, a full debriefing will follow my participation in the study. By signing this Consent Form I knowingly and willingly agree to participate in the experimental procedures of this study without prior knowledge of the nature and purpose of the study.

Although infrequent, experiments involving social interactions sometimes result in experiences of some emotional discomfort. Should you decide at any point through the study that you wish to discontinue your participation, it is within your right as a subject to do so. Your right to debriefing is not forfeited by a decision to terminate your participation.

My signature below indicates that I have been verbally informed by the principal investigator of this study that there are some aspects of the study that the experimenters will not tell me about until the conclusion of the study, and that with this knowledge I knowingly and willingly give my consent to participation as a subject.

By my signature below I release Fuller Theological Seminary and Fuller Graduate School of Psychology, as well as the individuals conducting this study, from any and all legal liability claims resulting from or related to, this study.

SUBJECT:_____ DATE:_____

WITNESS:_____ DATE:_____

Appendix B

Depressive Events Checklist

Discrete

1. Sadness
2. Loss of gratification/Anhedonia
3. Helplessness
4. Self-hatred
5. Pessimism
6. Self-effacement
7. Loss of motivation
8. Somatic complaints
9. Inappropriate self-disclosure
10. Hostility

Continuous

1. Flat affect
2. Psychomotor retardation
3. Monotone
4. Longer response latencies
5. Lower rate of behaviors emitted

Appendix C

Verbal Data Coding: Criteria and Definitions

Verbal-Positive

1. Direct support: reassuring, sympathetic, or empathic remarks, or any positive appraisal of the confederate or the confederate's attributes.

   a) Affection. Statements expressing a liking for the confederate. Examples: "I think you are nice." "I like you."

   b) Approval. Statements approving of the action(s) of the confederate. Examples: "I like the way you dress." "I like the way you are behaving."

   d) Laughter. Laughter and smiling which is either directed at or clearly related toward the confederate's actions or behavior (nervous, sarcastic and hostile kinds of laughter are not scored in this category).

2. Conversation maintenance, positive content: favorable descriptions other than of the confederate.

   a) Agree. Statements endorsing an opinion or an idea expressed by the confederate.

   b) Interest. Verbal statements expressing an interest for the immediate topic. This can be shown any number of ways. Example: "I think this is an important topic." "Tell me more about it." Any verbalization which clearly facilitates and encourages further discussion of the topic. The subject does more than merely continue the topic. She shows her interest by elaborating on the theme, providing more information about it, expressing enthusiasm for it, etc.

   c) Informational Inquiry. The subject asks a question of information or clarification, with the goal of maintaining and furthering the current topic of conversation. This category is coded when it is apparent that the subject is attempting to elicit a response from the confederate, with the goal of learning more about the confederate.

d) Self-disclosure/Self-referent. Subject talks about herself with the entent of further developing the current topic of conversation, or to "draw out" or invite further self-disclosure from the confederate.

e) Topic Continued. This is the weakest possible positive reaction. The subject continues to talk about the topic introduced by the confederate but she does so in a perfunctory manner, without being impolite.

Verbal-Negative

1. Direct Negative: punishing or insulting remarks or other expressions of displeasure or disapproval directly related to the confederate.

   a) Criticism. Verbal statements which are critical, hostile, or derogatory of the confederate. The criticism cannot be general criticalness, but must be directed specifically at the confederate.

2. Conversation maintenance, negative content: negative evaluations other than of the confederate. Descriptions or predictions concerning self, the experiment, school, work, etc., that have a negative evaluative tone.

   a) Disagree. Verbal statements expressing a disagreement with the confederate's ideas or opinions.

3. Conversation discontinuance. Any statement or nonstatement which changes the current topic or temporarily ends the conversation.

   a) Ignore. The confederate is scored as having been ignored when one of his verbalizations does not elicit a reaction or response within 30 seconds. "Ignore" is not coded when the confederate continues on to another topic without giving the subject a chance to respond to his first topic.

   b) Topic Change. This category is used to code subject reactions which introduce an unrelated topic and thus ignore the topic of the confederate.

This may take the form of an "informational inquiry" or "self-disclosure/self-referent" by the subject which has the effect of changing the topic.*

c) Interrupts. Verbal behaviors which "take the floor away from"the confederate, or which in some shape or form prevent him from completing his statement. "Interruptions" which are clearly indicative of great enthusiasm on the part of the subject and which are clearly judged to be facilitative of the confederate's topic are not scored as interruptions.

d) Silence. No verbal response to a confederate's statement or question. This category is coded only when the confederate was the last to speak.

Nonverbal-Positive

1. Eye Contact: maintenance of continuous eye contact (lack of "gaze avert" or "look-away," as defined in Nonverbal/Negative section, below).

2. Absence of Fidgeting: lack of fidgets, as defined under Nonverbal/Negative, below (i.e., absence of hand and/or foot tapping, absence of leg-swinging, absence of changes/shifts in body posture).

3. Gestures-Illustrator: any hand movement which does not touch (rub against) another part of the body. These hand movements usually accompany and illustrate speech. Only hand movements are coded in this category.

4. Body Orientation-Toward: Subject's body is fully oriented in a plane parallel to the plane of the confederate's body; i.e., the body is not turned to either side, but is "square" to the confederate's body.

5. Body Posture-Open: arms and legs uncrossed, upper body leaning forward toward confederate. Hands and arms not blocking face or upper body.

*The rater judges whether the subject response is related or not related to the previous topic.

Nonverbal-Negative

1. Gaze Avert/Look-Away: loss of eye contact, either without turning head, or by turning head to look away from the confederate. Each individual, momentary loss of eye contact (regardless of how brief) is counted as one "gaze avert."

2. Fidgets: movements not coded as either "Illustrator" or "Adaptor." Examples: nervous hand-tapping that is not illustrating speech, nervous foot-tapping or wiggling, shifts/changes in body posture, crossing or uncrossing legs, swinging legs, etc. Each separate fidget movement is counted.

3. Gestures-Adaptor: any movement of a hand across a part of the body (including the same hand). Only hand movement is coded.

4. Body Orientation-Away: subject's body shifted out of the plane parallel to the confederate's body; i.e., subject's body turned slightly to one side.

5. Body Posture-Closed: arms and/or legs crossed, upper body leaning back away from confederate. Hands and/or arms partially "blocking" face or upper body.

Appropriate Journals for Publication

1. Journal of Personality and Social Psychology
2. Journal of Abnormal Psychology
3. Psychological Bulletin

March 4, 1984

Robert Hogan, Ph.D.
Section Editor, JPSP
Department of Psychology
University of Tulsa
Tulsa, OK 74104

Dear Dr. Hogan:

Enclosed is an article-format draft of my Ph.D. dissertation entitled "Verbal and Nonverbal Responses to Depressive Symptomatology." It is an investigation of the interpersonal model of depression proposed by Jim Coyne, Ph.D.

I would appreciate your consideration of my dissertation for publication in the Journal of Personality and Social Psychology.

I will be happy to supply any additional information, or answer questions regarding my research.

Sincerely,

Rowland W. Shank, Jr.

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Vita

ROWLAND WARD SHANK, JR.

1954	Born June 30, in Newport News, Virginia, to Rowland and Thelma Shank
1972	Graduated from Eastern Mennonite High School, Harrisonburg, Virginia
1977	B.A., summa cum laude (Psychology), Messiah College, Grantham, Pennsylvania
1978-1984	Student, Graduate School of Psychology, Fuller Theological Seminary, Pasadena, California
1979	Travis Award for Integration (3rd place award for theoretical integration paper), Fuller Graduate School of Psychology, Pasadena, California
1979-1980	Awarded Mennonite Mental Health Services Scholarship
1980	Student Clinician, Child Development Center, The Psychological Center, Fuller Graduate School of Psychology, Pasadena, California
1981	Teaching Assistant, Adolescent Psychotherapy, Fuller Graduate School of Psychology, Pasadena, California
1981-1982	Student Clinician, Pasadena Community Counseling Clinic (Fuller Psychological Center), Fuller Graduate School of Psychology, Pasadena, California
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1982-1983	Psychological Assistant, Forensic Psychology Practice (Michael P. Ward, Ph.D.) Pasadena, California
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