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**Simulated criticism from a significant other as a precipitating  
factor for depression in dependent personalities**

**Catterall, William Van Cott, Ph.D.**

**The University of North Carolina at Greensboro, 1994**

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**SIMULATED CRITICISM FROM A SIGNIFICANT OTHER  
AS A PRECIPITATING FACTOR FOR DEPRESSION  
IN DEPENDENT PERSONALITIES**

by

**William Van Cott Catterall**

**A Dissertation Submitted to the  
Faculty of the Graduate School at  
The University of North Carolina at Greensboro  
in Partial Fulfillment  
of the Requirements for the Degree  
Doctor of Philosophy**

**Greensboro**

**1994**

**Approved by**

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**Dissertation Adviser**

**CATTERALL, WILLIAM VAN COTT, Ph.D. Simulated Criticism from a Significant Other as a Precipitating Factor for Depression in Dependent Personalities (1994) Directed by Dr. Rosemary O. Nelson-Gray. 111 pp.**

**The effect of simulated criticism from a significant other on the occurrence of depressed affect in persons with dependent personalities was investigated within an analogue population of college undergraduates. The experimental sample consisted of 80 non-depressed participants who were classified on the basis of the Millon Clinical Multiaxial Inventory (MCMI) and assigned to one of four participant groups based upon personality style (Dependent, Histrionic/Narcissistic Control, Other Personality Control, and Normal Control). Simulated criticism from a significant other who accompanied the participant to the study was administered following an interactive period between the participant and their significant other. Dependent measures of the participant's concurrent depressed affect were taken before and after receipt of this simulated criticism, using the Depression Adjective Check List (DACL).**

**On receipt of the simulated criticism, it was expected that individuals with a dependent personality style would display a greater increase in depressed affect than non-dependent individuals. The results of the experiment confirmed this prediction. Individuals with dependent personalities displayed the greatest increase in depressed affect, as well as the largest absolute magnitude of depressed affect, upon receipt of the simulated criticism relative to the other three personality control groups. This finding confirms the sensitivity of dependent individuals to criticism from significant others, as well as its depressive effects. Implications for the prevention and treatment of depressive episodes in dependent personalities are discussed.**

APPROVAL PAGE

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## CHAPTER I

### INTRODUCTION

Major depression as a psychological syndrome is one of the most commonly experienced disorders in the general population. The major depressive episode is characterized by a depressed affect or a loss of interest in activities previously found pleasurable, in addition to other symptoms, such as feelings of fatigue and changes in sleeping and eating habits. Specific diagnostic criteria have been developed for Major Depression and related syndromes, and as such comprise the present diagnostic definitions of the disorders included within the general category of clinical depression (American Psychiatric Association, 1987) (see Appendix A). Estimates by the American Psychiatric Association (1987) indicate that 9-26% of females and 5-12% of males have experienced major depression at least once during some period in their lives. Also, the incidence of recurrence of major depression in persons with a previous experience of the disorder approaches 50% (American Psychiatric Association, 1980). The most telling statistic associated with the severity of major depression involves the fact that the mortality rate for this population is about twice that of the general population as a result of the higher suicide rate among major depressives (Leonard, 1974). The widespread prevalence and danger associated with major depression in our society makes it important that a method for identifying those susceptible to episodes of major depression be developed and used in the mental health professions.

Until recently, most research into major depression has relied upon a homogeneous model of the disorder (Craighead, 1980; Liberman, 1981). In these studies, the etiology, symptom array, prognosis, and treatment responsiveness of the syndrome are considered to be unitary variables across the full range of the disorder. Thus, research employing a homogeneous model of major depression considers all individuals suffering from the syndrome to be similar with respect to the significant characteristics of depression. In contrast to this approach, recent research has begun to make use of heterogeneous models of depression. These paradigms use a subtyping strategy to divide the overall disorder into a number of subtypes based upon one or more dimensional factors. Dimensions often utilized include those based upon etiology, symptomatology, severity, prognosis, and effectiveness of various treatment interventions.

The diagnostic manual published by the American Psychiatric Association (Diagnostic and Statistical Manual of Mental Disorders, 3rd edition - revised, DSM-III-R) (1987) currently makes use of four subtypes of depression based upon the symptomatology and suspected etiology of the disorder. Bipolar Affective Disorder involves an individual evidencing episodes at different times of both mania and depression. Major Depression represents a severe form of depressed affect occurring in episodes, while Dysthymic Disorder involves a more moderate but chronic depression. The final subgroup, Adjustment Disorder with Depressed Mood, indicates a depression occurring in reaction to a specific and chronologically proximal environmental event.

Other attempts at subtyping depression have concentrated on distinctions based largely on particular etiological models of the disorder. Such factors as whether the depression represents the primary disorder or if it is secondary to



some other central disorder, and whether the depression is in reaction to some externally localizable event or if it seems to stem from some internal cause, have been utilized.

Much interest within depression research has recently been directed toward the impact of personality disorders on the depressive disorder. The current literature indicates that comorbidity between personality disorders and depression ranges from 37% (Charney, Nelson, & Quinlan, 1981) to 87% (Friedman, Aronoff, Clarkin, Corn, & Hurt, 1983). Of a sample of 249 outpatients diagnosed as having major depression, 35% were found to have at least one personality disorder as defined by strict criteria using the Personality Assessment Form (PAF) developed for this study (Shea, Glass, Pilkonis, Watkins, & Docherty, 1987). An additional 40% were evaluated as having a "probable" personality disorder. This high level of incidence would seem to indicate that a large proportion of depressed individuals suffer from some long-standing personality disorder.

Using personality disorders to subtype depressives may produce much useful information. Depressives with different personality disorders may evidence differences in depressive symptomatology, in etiological and/or maintaining factors, in precipitants for recurrent episodes of depression, in prognosis and course of the depressive disorder, and in response to specific treatments.

Support for such a supposition can be found in recent research examining depressed populations with and without personality disorders. Such studies, in examining the symptomatology of depressed patients, indicate that these patients' symptoms are expressed differentially depending upon the personality type of the individual in question (Akiskal, Hirschfield, & Yerevanian, 1983; Chodoff, 1972;

Hirschfeld, Klerman, Clayton, & Keller, 1983, Matussek & Feil, 1983). The study by Shea et al. (1987) indicated that personality disordered outpatients differed from their counterparts who were not personality disordered in that they tended to have longer episodes of depression and were more likely to carry the diagnosis of endogenous depression. Also, in an example of the interaction between a specific personality disorder and depression, a study of 462 inpatients found borderline personality disorder and mixed personality disorder with borderline features to be the most common personality disorder syndromes associated with major depression, dysthymic disorder, and atypical depression (Manos, Vasilopoulou, & Sotirou, 1987).

In a similar study involving 78 inpatients with DSM-III major depression, 53% were found to suffer from a concurrent personality disorder (Pfohl, Stangl, & Zimmerman, 1984). Closer examination of the personality disordered group revealed that they tended to experience more life stressors and have a poorer social support network than depressives without a personality disorder. This serves as further evidence that the population of personality disordered depressives displays a predisposition to depression, as weak social support and high life stressors are major factors implicated in the etiology and maintenance of depression (Brown & Harris, 1978). The study by Pfohl et al. (1984) also found significant physiological differences between depressed inpatients with and without personality disorder. The patients with an Axis II disorder showed a poorer response to antidepressant medication, while demonstrating a less frequent nonsuppression of cortisol on the dexamethasone suppression test; the latter finding is typically associated with non-depressed or normal populations. Demographic findings in the previously mentioned study by Shea et al. (1987)

indicated that the depressives who were suffering from personality disorders grouped in the Axis II "dramatic" cluster of personality disorders tended to be younger at the age of their first depressive episode and had a history of more suicide attempts than did their non- personality disordered counterparts.

A number of theoretical propositions have been advanced as models of how personality disorders and depression functionally interact (Farmer & Nelson-Gray, 1990). Some of these hypotheses suggest that personality disorders and depression arise from different psychobiological origins, and appear together due to the presence of some third factor (the coeffect hypothesis), due to chance factors as a result of their high frequency of appearance in the general population (the orthogonal hypothesis), or due to overlapping diagnostic criteria for identifying the disorders (the overlapping symptomatology hypothesis). In contrast to these posited relationships, the complication hypothesis suggests that personality disorders ultimately derive from early depressive experiences, and are therefore to be considered secondary to the depressive syndrome. Similarly, the attenuation hypothesis proposes that personality disorders and depression share the same genetic or constitutional origin, and the personality disorder is an attenuated expression of the primary depression. Finally, the notion that maladaptive personality features predispose individuals to affective disorders is embodied in the characterological predisposition hypothesis.

Of the potential explanations for the relationship between major depression and personality disorder discussed above, the theoretical alternative most closely considered in the literature to date would appear to be the etiological, or characterological predisposition, hypothesis (Millon & Kotik, 1985). In the early seventies, Gerald Klerman (1973) proposed that personality disorders function

along the lines of a diathesis-stress model. According to this proposal, the presence of a personality disorder of a given type tends to make the individual vulnerable to stressful life events and, as a result, prone to developing depressive symptomatology. The DSM-III-R definition of personality disorders explicitly restricts them to a series of maladaptive behavioral strategies that are a continuous element of the person's behavioral repertoire and remain fairly constant and unchanging throughout the person's adult life. This definition would seem to be consistent with the viewpoint of the diathesis stress model. As the personality disorder must be, by definition, stable over time, and major depression is generally conceived as being episodic and potentially transient in nature (Leber, Beckham, & Danker-Brown, 1985), it would seem that the personality must, perforce, compose the 'diathesis' element of the model, and the depressive episode constitute the outcome to the stressor. Therefore, one would conclude that, in any empirical investigation of the relationship between Axis II disorders and major depression, it would be best to look to the former as predisposing the individual to the latter, and not the reverse.

A review of the recent literature suggests that a number of theoreticians operate under the assumptions put forth in the characterological predisposition hypothesis (Akiskal et al., 1983). Some researchers and theoreticians who support this hypothesis, such as Arieti and Bemporad (1980), argue that certain distinctive personality traits result in a greater susceptibility to depressive experiences in individuals possessing those traits. These authors suggest that depressive reactions may result in individuals who exhibit maladaptive coping styles, where stringent requirements need to be met for optimal functioning. The nature of such requirements is inherent in the personality style of the individual, and can range

from a specific role in a group or organization to a continuing relation with a significant other, with failure to meet these requirements resulting in an episode of depressive functioning. Similarly, Becker (1977) suggests that individuals might be predisposed to depression as a result of personality factors. Becker proposes a "depressive" personality pattern, characterized by a dependency on external support as a means of sustaining self-esteem, which functions to predispose the individual to depressive reactions to stressful life events.

Other theoreticians have attempted to explicate the nature of the underlying mechanisms which might cause the various personality disorders to predispose individuals to experiencing depressive disorders. Millon (1969, 1981) has developed a theoretical framework, involving personality disorders and the types of social reinforcement sought out by such individuals, which influenced the development of the classification of personality disorders in Axis II of DSM-III and DSM-III-R. In his approach, Millon proposed two dimensions along which social reinforcement might vary. One of these dimensions, the instrumental behavior dimension, involved the degree to which the person is active or passive in his or her acquisition of reinforcement from the environment. The second dimension of Millon's model specified whether the individual is independent of others in his or her sources of reinforcement, largely dependent on others, ambivalent, or detached. This framework yielded a more complicated picture of the differing characteristics of the various personality disorders than the clustering finally included in DSM-III. These DSM-III clusters include the odd or eccentric group (Paranoid, Schizoid, and Schizotypal Personality Disorders), the dramatic or erratic cluster (Antisocial, Borderline, Histrionic, and Narcissistic Personality Disorders), and the anxious or fearful group (Avoidant, Dependent, Obsessive

Compulsive, and Passive Aggressive Personality Disorder). Millon fit eight of the eleven Axis II disorders into the four-by-two matrix resulting from his model (see Appendix B), with borderline, paranoid, and schizotypal personality disorders representing decompensated versions of these eight disorders.

Working from the premise that personality disorders shape the expression of depressive symptomatology (Paykel, Klerman, & Prusoff, 1976), Millon has also reviewed each of the personality disorders and discussed potential indicants of differential symptomatology that might reveal the nature of the "pathoplastic" effect of Axis II disorders on depression (Millon & Kotik, 1985). His overview of the disorders indicates some consistency of symptoms along the dimensions stipulated above, but a more rigorous, empirical examination of his system has yet to be accomplished (Coleman, Butcher, & Carson, 1984). Millon's contribution to the area, then, has been to indicate how disordered personalities might differ in their attempts to solicit and maintain reinforcement from their environment, and how depression could result from the frustration of these reinforcement-seeking strategies.

A growing body of research has addressed the question of how the loss of certain types of reinforcement differentially affects the occurrence of depressive mood in personality disordered individuals. Such investigations (Catterall, 1990; Leventhal, 1991) have built upon a substantial body of previous findings implicating the loss of positive reinforcement as a significant factor in the onset and maintenance of depression (Ferster, 1966; Lewinsohn, 1974). In using Millon's model to predict the nature of a differential outcome to reinforcement loss, it is clear that the dimension devoted to the source of reinforcement appropriate to the different personality disorders should provide some predictive information as

to how a given personality disordered individual should react to a specific loss. Thus, a depressed individual whose underlying personality disorder indicates a propensity for being reinforced primarily through others (dependent source of reinforcement) would tend to become more depressed when deprived of social reinforcement than would someone whose underlying personality disorder indicates an emphasis on independent, achievement-oriented reinforcement. If this were to be demonstrated in an experimental setting, the implications for the clinical setting would be significant for both predicting and managing the depressive episodes of such persons, as well as for the prevention of further episodes of the depression. Thus, knowledge of critical reinforcement sources for different personality disorders would provide the clinician with both an understanding of the types of losses that are likely to be experienced as depressing by the individual, and the forms of increased reinforcement that might be likely to aid in alleviating their depression.

A number of recent studies have investigated the notion that specific experiences of reinforcement loss generate depression in specific individuals. Tests of this specificity hypothesis have found mixed results depending upon the types of personality styles studied and the particular loss experiences manipulated in the study. One experiment with college students found that negative social events resulted in higher levels of depression for individuals with sociotropic (or dependent-style) personalities (Robins & Block, 1988). Similarly, college women with dependent personalities were found to respond depressively to rejection-type experiences, while those with self-critical personalities reacted depressively to both rejection- and failure-type experiences (Zuroff & Mongrain, 1987). Findings of this sort were also found in longitudinal studies of personality

style and depression, linking depression with dependent individuals experiencing negative interpersonal events (Hammen, Marks, & deMayo, 1985) and with events designed to match dependency and autonomy personality subtypes (Hammen, Ellicott, Gitlin, & Jamison, 1989). In considering an overview of these studies testing the specificity hypothesis, which posits that specific events lead to depression in persons with specific personality styles, one consistent relationship which emerges is the relationship between dependent personality characteristics and negative social or interpersonal events, which tend to often result in depressive experiences among those individuals (Nietzel & Harris, 1990).

Of all the possible personality styles, dependent personalities have been specified by Millon and Kotik (1985) as being the most likely individuals to become depressed. Dependents are described as typically docile, noncompetitive and passive, and rely almost entirely upon others for their support and reinforcement. Other theoreticians have defined dependence in adults as being characterized by a need to stay close to others, to be primarily the recipient in interpersonal transactions, and to relate to others from a position of inferiority and humility (Birtchnell, 1988). The DSM-III-R provides its own diagnostic requirements for Dependent Personality Disorder, organizing these descriptive symptoms into specific diagnostic criteria for qualification for the disorder (American Psychiatric Association, 1987) (see Appendix C for details). The characteristic passive dependence on one or two significant others for support and nurturance is thought to result in a diminished range of possible sources of reinforcement for these individuals, and thereby exposes them to an increased risk of reinforcement loss (Millon et al., 1985). These persons often evidence an underlying characterological pessimism and, when confronted with the possibility



of abandonment by or actual loss of a significant other, a major depression is thought to be likely to ensue.

Other theories have linked the characteristics of the dependent personality with the depressive syndrome. Freud (1917/1968) considered the "oral receptive" character to be connected to depression when the affective needs of this type of individual are frustrated. Later psychoanalytic formulations distinguished between the "introjective" and the "anaclitic" depressive (Blatt, 1974). In this conceptualization, the anaclitic depressive is specified as exhibiting a strong dependency on other persons for support and gratification. Recent exploration of the validity of Blatt's notion of the anaclitic personality as predispositional to depression, however, has failed to corroborate the predictions derived from such a proposed relationship (Klein, Harding, Taylor, & Dickstein, 1988). At the same time, recent investigations suggest that measures of oral-dependent personality traits are significantly associated with increased risk of a variety of psychological problems, including depression (Greenberg & Bornstein, 1988).

Coming from a more behavioral orientation, Lewinsohn (1974) has suggested that "some depressed individuals are clearly overinvolved with one significant person to the exclusion of most other potential relationships." Along a similar line, Beck (1981) has recently expanded his conceptualization of depression to include personality attributes which might lead to depression. His "socially dependent" personality mode is typified by persons who are characterized by passive receiving and require stability and reassurance in their relationships. The depressive episode is seen as arising in these individuals from an interpersonal rejection or loss which results in a diminished self-esteem. Finally, there appears to be one counterpart to the dependent personality which

has arisen from factor analytic work on depressives (Grinker, Miller, Sabshin, Nunn, & Nunnally, 1961). This individual was identified as possessing attitudes of hopelessness, anxiety and low self-esteem, and as engaging in attention-seeking behavior. Nietzel & Harris (1990) used meta-analysis to estimate the effect sizes for dependency traits on standard measures of depressive symptomatology, confirming a significant effect size consistent with the hypothesis of depressogenic personality dispositions. These varying perspectives, taken as a whole, acknowledge the significant conceptual and statistical link between dependency and depression. This link, in conjunction with the fact that Shea et al. (1987) found that 6% of all major depressives in their study evidenced full-blown dependent personality disorder in the absence of other personality disorders, would seem to indicate that identifying the precipitants that place these individuals at risk for the onset of a major depressive episode would be useful to the clinical community.

Studies examining specific predispositional personality factors have been helpful in beginning to identify characteristics which appear to function in conferring vulnerability to depression. In one longitudinal study of undergraduate women utilizing the Dysfunctional Attitudes Scale and a retrospective administration of the Beck Depression Inventory, stable cognitive and personality variables were significant predictors of dysphoric periods over the course of a twelve-month period (Zuroff, Igreja, & Mongrain, 1990). In this study, dependent personality style predicted anaclitic state depression in college women, while self-critical personality style predicted introjective depressive experiences in those participants (Mongrain & Zuroff, 1989). Thus, while these investigations have been largely correlational, they have begun to explicate the relationship between

personality traits and depression in general, and specifically between dependency and depression.

In a previous study (Catterall, 1990), I examined how the loss of certain types of reinforcement differentially affected the occurrence of depressive mood in dependent individuals using an analogue population of college students. Two manipulations designed to duplicate the loss of reinforcement from another person were performed on dependent individuals as well as a number of analogue control groups. In both manipulations, reinforcement in the form of feedback and encouragement was alternated in experimental phases with periods in which this reinforcement was absent, and measures of dysphoric mood were taken at each juncture. The results of the experimental manipulations were unclear, with no evidence found for the hypothesis that dependent individuals would react adversely to the experience of loss of reinforcement. At the time, it was suggested that one reason for a lack of support for this hypothesis was that the manipulation failed to make use of significant others as the focus of the manipulated reinforcement loss. Given the importance of the significant other to the functioning of the dependent personality, it was suggested that a manipulation which made use of significant others would provide a better test of that hypothesis. Clarifying the relationship between dependent style and depressive experiences in this way would thus provide an opportunity to identify potential trigger events for episodes of depression in dependent personalities.

## **Statement of Purpose**

The present study tested the effects of an apparent loss of social support from significant others on the occurrence of depressed affect in persons with dependent personalities. In contrast to the earlier study (Catterall, 1990), the present study made use of significant others in an attempt to manipulate a form of reinforcement loss more likely to occur in the daily lives of individuals. The study involved four groups distinguished by personality type: a group comprised of Dependent individuals, a group comprised of Histrionic and Narcissistic individuals, a group comprised of individuals with other personality disorders, and a Normal Control group. The non-dependent control groups were distinguished based upon whether the non-dependent personality style included a craving for attention or approval from others in their defining criteria, given that such a trait was thought to be similar potentially to the sensitivity to rejection or criticism in dependency. Thus, a comparison was possible between the response of the histrionics and narcissists, for whom a craving for attention or approval is central to their diagnostic identity in the DSM-III-R (American Psychiatric Association, 1987), and the other non-dependent personality disordered individuals. A simulated criticism paradigm was utilized, wherein the participants and significant others were asked to interact for a period of time, and then separated. The participant was then presented a negative evaluation of their behavior during the interaction which purportedly came from their significant other. In addition to an initial baseline measure of mood prior to the interaction, additional mood measures were taken before and after this simulated criticism manipulation.

The hypothesis being tested in this study was that criticism from a significant other would result in a greater increase in dysphoric affect in dependent individuals than in non-dependent individuals. The following specific predictions were tested for confirmation (see Appendix D):

1) All groups will show an increase in depressed mood as a result of the manipulation.

2) Individuals from the Normal Control and Other Personality Disorder Control groups will display no significant difference between their respective elevations of depressive affect in the post- manipulation measure. The Histrionic / Narcissist Control group will display a higher level of dysphoric affect post-manipulation than the other two Control groups.

3) Dependent individuals will evidence an amount of depressive affect post-manipulation significantly greater than that of the Normal Control and two Psychiatric Control groups. Dependent personalities will display a greater increase in depressive affect from the pre-manipulation measure to the post-manipulation measure than will the three Control groups.

## CHAPTER II

### METHODS

#### **Participants and Experimental Groups**

An analogue population of college undergraduates was used to test the present hypothesis, based upon support in the literature for considering the Axis II personality disorders as representing the extreme end of a continuum of personality subtypes ranging from normal and adaptive styles to pathological, maladaptive styles (Frances, 1980). Also, recent studies investigating the link found previously between dependency and psychopathology in clinical populations have found a similar linkage among non-clinical college students (Bornstein & Johnson, 1990). The present study made use of four groups sampled from this population of college undergraduates: one group consisting of individuals with dependent personality disorder style, one group consisting of individuals with histrionic and narcissistic personality disorder styles, one group consisting of a mixed assortment of persons with various non-dependent / histrionic / narcissistic personality disorder styles, and one normal control group of persons with no personality disorder style.

Participants for this study were drawn from the population of college undergraduates registered for introductory psychology courses at the University of North Carolina at Greensboro over the course of four consecutive semesters. During mass screening of this population (approximate total  $n = 1900$ ), administration of the Millon Clinical Multiaxial Inventory (MCMI) (Millon, 1977)

provided data allowing for the identification of potential participants in the study. The MCMI is a self-administered written inventory consisting of 175 true/false items. The inventory provides scores on twenty clinical scales, of which eleven scales measure personality patterns which correspond to the Axis II personality disorders of the DSM-III-R, including a measure of dependent personality attributes. The MCMI also provides measures of clinical symptomatology corresponding to Axis I disorders, including a measure of clinical dysphoria labeled the "Dysthymic" scale which serves as a measure of chronic depressive features. Millon (1982) reports reliability data for each of these scales based on the clinical population used to norm the scales. Test-retest correlations were .83 for Scale 3 (Dependent-Submissive) and .78 for Scale D (Dysthymia). Convergent validity for the MCMI scales was obtained through correlations with other diagnostic inventories, including the MMPI, the Psychological Screening Inventory, and the Symptom Distress Checklist. A review of recent studies testing this convergent validity for the MCMI indicated that an unacceptably low level of convergent validity has been identified for Scale 6 (Antisocial) and Scale 7 (Obsessive-Compulsive). As a result, these scales were not employed in the screening for this investigation. Also, as it was not anticipated that a high number of individuals would score significant elevations on the Schizoid (Scale 1) and Schizotypal (Scale S) scales, these personality scales were also not considered during the screening process for the present investigation (see Table 1 for an annotation of which MCMI scales were employed in the present study).

Although the MCMI was originally intended to be used with clinical populations, normative data were established for a total of 2775 students enrolled in introductory psychology courses over the past five years (Amodei &

Schneidmiller, 1987; Cassady, 1991). Median base rate scores for this normative sample are included in Appendix E, Table 1. Critical levels were established for each MCMI scale (see Table 1) based upon Base Rate scores yielded by the normative sample, with critical levels set at or above the 75th percentile for the normative sample group. These critical levels were selected pragmatically as a means of yielding a distribution of individuals within the sampled population who would display a significantly high elevation on the given scale, while still generating an acceptable number of available candidates within the sampled population. These critical levels were utilized in identifying potential members of the four experimental groups (see Table 2).

Qualification for membership in the Dependent group (Group 1) required an elevation above the critical level on the dependent scale (Scale 3) of the MCMI as well as an absence of any such elevation on any other of the clinical and personality disorder MCMI scales used in the study. Membership in the Histrionic/Narcissist control group (Group 2) required an elevation above the critical level on the Histrionic (Scale 4) and/or Narcissist (Scale 5) scales in the absence of any such elevation on the other personality and clinical scales used in the study. Membership in the Other Personality Disorder control group (Group 3) required an elevation above the critical level on the Avoidant (Scale 2), Passive-Aggressive (Scale 8), Borderline (Scale C), and/or Paranoid (Scale P) scales in the absence of any such elevation on the other personality and clinical scales used in the study. Thus, an individual with elevations on two or more scales could be included in the study if those elevations were confined within one of the Personality Control groupings chosen for this study (i.e., an individual with a significant Histrionic elevation could also be elevated significantly on the



Narcissism scale). The normal control group for the study consisted of individuals with no elevations above the critical level on any clinical or personality disorder scale used in the study.

Twenty female participants were solicited for each of the four groups. Because of the relative prevalence of female undergraduates in the subject population, and for purposes of simplicity in the statistical analysis of the data, no male participants were recruited for the present study. With only one exception, all participants were traditional-aged undergraduates (ages 18 - 20), with the single outlier being a 45 year old participant who was a member of the normal control group. With regard to the racial distribution of the participants, 11% (9 of 80) of the participants were black; the remaining participants (89%, or 71 of 80) were white individuals. Among the four experimental groups, the Other Personality Disorder group (Group 3) contained the greatest representation of black individuals (20%, or 4 of 20), followed by the Dependent Personality group (Group 1) and the Normal Control group (Group 4) (10%, or 2 of 20, in both of these groups). The Histrionic / Narcissist group (Group 2) contained the least representation of black individuals (5%, or 1 of 20) (see Table 3).

In addition to the screening requirements for the four experimental groups based upon personality characteristics assessed on the MCMI, individuals who scored above the critical level on the Dysthymic scale on the MCMI were excluded from membership in any of the four groups. This step was taken as an ethical precaution to ensure that chronically depressed individuals were not included in the project, due to the expectation that the experimental manipulation would be likely to temporarily exacerbate their level of depressive affect.

During the initial telephone contact with the potential participant, she was asked to bring to the experiment with her a person on whom she could rely most for support, and who was available to accompany her to the experiment. This second individual served as the "significant other" for the study, and as such was determined by the participant's judgment of who provided for her support when it was needed. Participants were asked to limit their choice of significant other to close friends, spouses, fiances, romantic partners, and relatives, with parents being excluded from potential consideration. These various role restrictions for the significant others were used in the study as a means of increasing the likelihood that truly significant others were brought to the study, as opposed to simply convenient acquaintances. With regard to the parental restriction, potential participants were asked during the initial telephone contact whether they would have chosen to have a parent accompany them to the study if this were allowed, as a means of determining whether this restriction represented a significant curtailment upon the selection of dependent undergraduates by excluding individuals dependent primarily on their parents. None of the eighty participants indicated during the telephone interview that they would have brought a parent with them in the absence of this restriction. There were no restrictions placed upon the age or gender of the significant others included in the study.

Of the eighty significant others who participated in the investigation, thirteen (16% of the significant others) were males, of which eight (10% of the significant others) were identified by the participant as a "boyfriend" and the remainder as some variety of "friend". Of the female significant others included in the study, six (8% of the significant others) were identified as being a "roommate" with no further elaboration that the individual was a friend, while three (4%) of the

significant others were a sister of the participant. The remaining female significant others (72%) were labeled by the participants as being friends, close friends, or best friends (see Table 3 for relationship data).

### **Experimental Design**

Grouping for the four participant groups yielded a Dependent Personality Disorder group, a Histrionic/Narcissist Control group, an Other Personality Control group, and a Normal Control (non-personality disordered) group. The experimental design consisted of each of these groups being presented with the experimental manipulation described below. This resulted in a 5 (time of mood measure) x 4 (participant group) experimental design.

### **Experimental Manipulation**

The experimental manipulation utilized in this study was a negative peer interaction situation where participants were asked to interact for five minutes with a significant other who accompanied them to the location of the experiment. The participant and significant other interacted for five minutes alone in a room, and were then separated in order to fill out a number of questionnaires. The participant was asked to rate the significant other on a variety of characteristics with regard to the significant other's participation in the interaction, and were led to believe that the significant other was completing a similar form rating the participant (although the significant other was not, in fact, asked to complete any such ratings). Upon completion of this rating form, participants were presented

with a standard simulated criticism form, which they were led to believe had been completed by the significant other.

### **Primary Dependent Measure**

The Depression Adjective Checklist (DACL) (Lubin, 1966) was administered as a dependent measure at five points during the above procedure. The DACL was employed due to its sensitivity to transient mood as well as due to the fact that a number of alternate forms of the DACL have been designed and tested to be reliable (see Appendix F). Test-retest correlations of these forms range from  $r=.77$  to  $r=.84$ , and split-half reliability on the different forms has yielded mean correlations of  $r=.69$  (Lubin & Himelstein, 1976). The five forms used in this study were DACL forms A-E, with order of presentation randomly varied across participants. An initial baseline measure was made of the participant's concurrent mood at the outset of the study and prior to the peer interaction manipulation. A second measurement was taken following the five minute interaction, with a third DACL measurement taking place following the participant's completion of the rating forms. The fourth DACL was administered immediately following the participant's perusal of the simulated criticism form, and a fifth and final DACL measure was administered at the conclusion of the debriefing process.

### **Ancillary Dependent Measures**

A number of additional measures and inquiries were administered during the study as a means of gathering further information with regard to the

participant's relationship with the significant other, the participant's mood during the most recent two weeks, and the participant's reaction to the experimental manipulation.

The Dyadic Adjustment Scale, as modified for use with non-marital dyads (Brannon, 1988; see Appendix G) was administered to participants as a means of evaluating the quality of the relationship between the participant and the significant other. Also, the participant was asked to complete a Relationship Survey (see Appendix H) assessing the emotional closeness and importance of the relationship on a likert scale (1 to 7), as well as asking them to provide information as to the duration and nature of the relationship. This information was solicited in order to determine how "significant" the relationship with the significant other actually was according to the participant, and how successful the recruiting instructions had been in encouraging participants to bring truly significant others to the study. Also, such data were compiled as a means of determining whether any between-group differences were detected with regard to the relationship between the participant and the significant other, given that such information might prove helpful in interpreting data in the study.

The Beck Depression Inventory (BDI) was administered to all participants prior to the manipulation (see Appendix I) as a means of assessing for the presence of more acute dysphoria. The BDI is a twenty item self-report inventory measuring level of depressed mood over the course of the past two weeks. Depression was thus measured because such a prior condition of depression might also make individuals sensitive to criticism of the sort employed in the study. It was determined that, should the level of depression as measured on the BDI differ significantly among the four groups, the BDI score was to be used in the

analysis of the data as a covariate. The BDI was also used to screen from participation in the study individuals who had been significantly depressed over the past two weeks (BDI score  $\geq 16$ ). Because the experimental manipulation was expected to temporarily increase the level of dysphoric affect, depressed individuals were excluded from participation with the BDI in order to avoid the possibility of exacerbating their condition. Six participants were excluded for this reason.

Participants were asked to rate both their own and their significant other's performance during the interaction period (see Appendix J). The rating forms required the participant to endorse seven items on a seven-point likert scale, with low scores indicating strong agreement with the seven positively-worded items. Average mean scores were calculated for items endorsed on each Feedback Form administered.

Following the manipulation and prior to the debriefing, participants were asked to indicate on a likert scale (1 to 7) the degree to which the feedback (in the form of the Fabricated Simulated criticism Form; Appendix O) they received during the manipulation was accurate, and whether it was typical of feedback they receive at other times from their significant other (see Appendix K). After they had made these ratings, the participants were asked to expand upon their reactions to the feedback in their own words, and these comments for all participants (beginning with participant #5) were recorded verbatim by the examiner (see Appendix L). These data were gathered as a means of obtaining some indication of the degree to which the deception aspect of the manipulation had been successful. Comments about the participants' reactions to the feedback purportedly from their significant other were later coded by the

experimenter and a second, blind rater with regard to the degree to which the participant had volunteered an indication that they were suspicious that the feedback had not been completed by their significant other. These ratings (2=suspicious, 1=participant uncertain, 0=not suspicious) provided data with regard to the success of the manipulation across the four experimental participant groups (see Table 5).

## **Procedure**

A flowchart of the experimental procedure is provided in Appendix M. The procedure began with both participant and significant other signing statements of consent prior to the study commencing (see Appendix N). At this point, the participant and significant other were given instructions on how to complete the Dyadic Adjustment Scale, and the significant other was taken to a separate room in order to allow private completion of these forms. The participant was then asked to complete the Relationship Survey, followed by the BDI. Finally, the initial baseline DACL was administered prior to the return of the significant other to the room. If significant depressive affect was evident in the BDI at this time, as operationally defined as a score of 16 or higher on the BDI, the participant was excused from further participation and both participant and significant other were thoroughly debriefed. This was necessary for five individuals during the course of the data collection for the study.

Following this initial screening procedure, the participant and significant other were asked to work on a cooperative project together for five minutes. The experimenter instructed the participant and significant other to use the five minute

period of time to decide upon a response to the following question: *If the two of you were stranded alone on a deserted island with nothing but food, water, and shelter available to you, what might be seven items you would choose to have with you.* The participant and significant other were provided with a piece of blank paper and pen with which to record their joint response, and left for five minutes to complete this project. Minimal elaboration was provided by the examiner if requested; the participant and significant other were instructed that the period of time they have to interact should be used by them to determine their best response to the question as stated. The purpose of this task was simply to provide a period of cooperative interaction between the participant and the significant other, which in turn provided a context for the simulated criticism manipulation.

At the end of the task, the participant and significant other were immediately separated, with the significant other being taken to separate room, and the participant was then asked to complete a second DACL. Following this, the participant was asked to complete a rating form (see Appendix J) assessing her significant other's activity during the project period, as well as an identical form evaluating her own behavior in a similar manner. The participant was instructed to complete the rating form assessing their significant other with the knowledge that the forms would be exchanged and that the significant other would have an opportunity to see how the participant had rated them. This instruction was provided as a means of leading the participant to believe that their significant other was completing a similar form rating the participant's own activity, thus adding verisimilitude to the deception aspect of the manipulation. The information gathered was also helpful in determining whether any of the participant groups



displayed a pattern of over-idealizing the significant other while disparaging their own performance, which could result in their viewing the feedback as non-depressing because it was only confirming their own assessment of their own performance. The significant others in the study were not asked to complete any forms assessing the participant's performance in the study.

Upon completion of these forms, the participant was asked to complete a third DACL, which was administered as a means of determining whether the process of rating themselves and their significant other significantly altered baseline mood across the four groups. Following this, the participant was presented with the standard simulated criticism form (see Appendix O), with the instruction that they should review the feedback from their significant other before completing a fifth DACL provided. The participant was left for some four minutes to complete this process, at which point the experimenter provided them with the Feedback Survey (Appendix K). The information on this survey was gathered as a means of determining whether any participant groups displayed a pattern of discounting the feedback if it were radically discrepant from their own assessment of their performance. A follow-up series of one or more open-ended questions with regard to the participant's reaction to the feedback was then administered by the experimenter, with the experimenter initially asking the participant to verbally expand upon the responses they gave on the Feedback Survey. If the participant required further prompting, the experimenter asked the participant how they had responded to the feedback they received in the study, how they felt about it, and what they thought about it. The participant's responses were recorded verbatim (Appendix L) as data to be later coded with regard to whether the participant appeared to be suspicious of the deception. The participant was then briefly told

the nature of the manipulation and the deceptive aspect of the study, and solicited for further comments with regard to their reaction to this information. These follow-up comments are also included in Appendix L as second entries for each participant, and were employed in the determination of suspicion ratings only when at least some degree of potential suspicion was evidenced in the initial comments by the participant. Thus, comments made by the participant following debriefing were only considered as providing further information about suspicion if the participant had volunteered some indication of being suspicious of the manipulation prior to debriefing. This precaution was taken as a means of ensuring that a participant who "saved face" by indicating suspicion only following debriefing, without having indicated possible suspicion during the open-ended questioning, would not be incorrectly assessed as having failed to respond to the manipulation.

Upon completion of the initial debriefing and questioning process, the significant other was brought back to the room and the participant and significant other were fully debriefed by listening to an explanation of the purpose of the study as well as details concerning the fabricated nature of the feedback (see Appendix P). At this point, the investigator queried the participants with regard to any negative reactions they were experiencing upon being informed that the feedback had been fabricated. Participants were also asked to complete a questionnaire (see Appendix Q), which asked them to write a few brief statements about what it was like for them to participate in the study. This was done in the belief that some participants were likely to feel more free expressing themselves in writing as opposed to orally. Following a period of discussion where participants and their accompanying significant others were also encouraged to discuss the

nature of the manipulation, both participant and significant other were administered the Velten Mood Elation Induction (Velten, 1968), which consists of 25 self-referent statements and has been shown to result in elated affect upon administration. Participants were asked to complete a final DACL rating, after which the study was declared over and participants and significant others were dismissed.

## CHAPTER III

### RESULTS

#### **Overview**

All data collected in the study were arranged based upon MCMI classification, with Dependent personalities compiled as Group 1, Histrionic and Narcissistic individuals as Group 2, individuals with Other Personality disorder styles as Group 3, and the Normal Controls as Group 4. Primary data for the Beck Depression Inventory (BDI) and the five administrations of the Depression Adjective Check List (DACL) were compiled and arranged in this manner by group (see Appendix E, Table 4). Additionally, measures administered prior to the manipulation as a means of assessing the nature of the participant's relationship with the significant other were compiled and arranged by group (see Table 3). Finally, participants' reactions to the feedback form and post-manipulation data bearing on the success of the deception aspect of the manipulation were similarly compiled and are presented in Table 5. The results are presented for each of these three sets of data, in turn.

#### **Effect of Manipulation on DACL**

A preliminary analysis of variance was performed on the BDI data in order to determine whether a baseline difference existed between groups on this

measure (see Table 6). This analysis yielded a highly significant group difference on the baseline BDI measure,  $F(3,76) = 10.44, p = 0.0001$ . In reviewing the mean data for the four groups, it can be seen that Group 3 (Other Personality Disorder Control) scored highest on this measure (mean = 7.75), followed by Group 1 (Dependent Personality Disorder) (mean = 4.87), Group 4 (Normal Control) (mean = 3.50), and Group 2 (Histrionic / Narcissist Control) (mean = 2.00) (see Appendix R, Figure 1). A post-hoc analysis of group mean differences using Scheffe test of pairwise comparisons indicated that the mean for Group 3 was significantly different (with Alpha = 0.05) from the other group means on the BDI measure.

Due to this baseline difference in mood across groups, the primary analyses of variance and repeated measures analyses for the DACL data were performed with the variable BDI used as a covariate. A review of the experimental data indicated that statistical assumptions necessary for the analysis of covariance, including the assumption of sphericity, were satisfied. These analyses yielded information with regard to group differences for the five individual administrations of the DACL measure (see Figure 2 for a graphic depiction of mean DACL data for the five DACL administrations by group) as well as repeated measures analyses with regard to changes in depressed affect across the course of the study. Type III Sums of Squares were utilized in the data analysis for these variables to control for the covariate. The analysis of covariance yielded a set of means adjusted for the covariate BDI (Least Squares Means), which are presented in Table 7 and graphically illustrated in Figure 3.

Separate analyses of covariance were performed for each administration of the DACL as a means of determining whether groups differed on each

administration of this dependent measure. The analysis of the baseline DACL measure (DACL1) found no significant difference between groups on this measure when BDI was used as a covariate,  $F(3,75) = 0.35, p = 0.7897$  (see Table 8). Similarly, no significant difference was detected between groups on the second administration of the DACL (Post-Interaction DACL),  $F(3,75) = 0.11, p = 0.9556$  (see Table 9). The analysis of DACL3 data (Pre-Manipulation DACL) also indicated that no group mean differences existed for that measure,  $F(3,75) = 0.57, p = 0.6372$  (see Table 10). In contrast to these findings, a significant group difference was detected for the Post-Manipulation DACL measure (DACL4) in the analysis of those data,  $F(3,75) = 2.73, p = 0.0496$ , with the BDI measure used as a covariate (see Table 11). A planned pairwise comparison of the adjusted means (Least Squares Means) using T-tests for DACL4 data (see Table 12) indicated that the adjusted mean for Group 1 (Dependents) (LS mean = 13.79) differed significantly from the means for Group 3 (Other Personality Control) (LS mean = 9.97) ( $p = 0.03$ ) and Group 4 (Normal Control) (LS mean = 9.71) ( $p = 0.02$ ). This finding is consistent with the prediction that the Dependent group would display greater depressive affect following the experimental manipulation relative to the control groups. Finally, the analysis of the group mean data for the final, Post-Debriefing DACL (DACL5) yielded no significant difference,  $F(3,75) = 1.76, p = 0.1618$ , among groups on that measure (see Table 13).

Summary analyses for the repeated-measures ANOVA were conducted for both Between Subjects effects and Within Subjects effects. A pooled error term, derived by combining the Between Subjects and Within Subjects error terms, was utilized in these analyses and in the subsequent analyses of the repeated measures contrast variables. In the summary Between Subjects analysis, no

significant group effect was detected for the overall (5x4) experimental model,  $F(3, 375) = 2.37, p > 0.100$  (see Table 14). The Within Subjects analysis for the overall model yielded a significant finding for Time (each administration of the DACL),  $F(4, 375) = 19.16, p < 0.0100$  (see Table 15).

The primary analysis for testing the main predictions of the study involved a repeated measures analysis of covariance of the contrast variables across the consecutive administrations of the DACL measures (see Table 16). This analysis provided information about whether group means differed in their amount of change between successive administrations of the dependent measure. Analysis of potential group differences in amount of mood change across these consecutive time sequences yielded no significant difference between groups from Time 1 to Time 2 (i.e., from Baseline DACL to Post-Interaction DACL),  $F(3, 375) = 0.20, p > 0.100$ . Similarly, no significant differences were detected between groups from Time 2 to Time 3 (Pre-Rating Forms DACL to Post-Rating Forms DACL),  $F(3, 375) = 0.75, p > 0.100$ . The analysis for the Time 3 to Time 4 (Pre-Manipulation DACL to Post-Manipulation DACL) difference between groups was found to be significant, however, indicating that the groups did change in their depressed affect in different amounts,  $F(3, 375) = 5.33, p < 0.010$ , across this time period. A further analysis of this planned comparison employing T-tests of the adjusted mean differences across this time period (Table 17) indicated that Group 1 (Dependent) displayed a significantly greater increase in depressed affect following the manipulation than did Group 3 (Other PD Control) and Group 4 (Normal Control). In order to further determine whether the four group difference scores across this time period differed individually from zero, separate analyses of covariance were conducted for each experimental group

(Table 18), indicating that all group difference scores save that for Group 3 (Other PD Control) were significantly different from zero. These findings are consistent with the predictions made at the outset of the study, which suggested that the groups would display an increase in depressed affect following the manipulation relative to their mood level prior to the manipulation, and that dependents would show the greatest increase. Finally, a significant difference was detected in the rate at which depressed affect decreased from Time 4 to Time 5 (Post-Manipulation DACL to Post-Debriefing DACL),  $F(3, 375) = 3.92, p < 0.0250$ . A post-hoc analysis of the pairwise comparisons of the adjusted mean differences for this time period (Table 19) indicated that depressed affect decreased following the debriefing at a greater rate for Group 1 (Dependents) than it did for Group 4 (Normal Control). Thus, the present overall analysis of the contrast variables for the four time intervals in the study suggests that the four groups changed in depressed affect at the same rate between subsequent administrations of the DACL, save in the case of the period of time between the Pre- and Post-Manipulation DACL where, as predicted, the depressed affect of the Dependent group increased to a greater extent than did the depressed affect of the Other PD and Normal Control group, and in the case of the Dependent group during the debriefing period.

### **Analyses of Ancillary Data**

#### **Accuracy and Typicality Data:**

Participants were asked to rate the accuracy and typicality of the feedback they purportedly received from their significant other. A comparison of mean



ratings across groups for the dependent variable Accuracy (see Figure 4) indicates a uniformly low level of accuracy endorsement across groups. An analysis of variance performed on the dependent variable "Accuracy" failed to indicate any significant difference among the groups for this variable,  $F(3,76) = 0.65$ ,  $p = .5862$  (see Table 20).

The degree to which the received feedback was considered to be typical of feedback received by the participant from the significant other outside the study was also noted. A comparison of group means for the dependent variable Typicality (see Figure 5) indicates a similarly low level of typicality rated across groups. An analysis of variance performed on these data detected no significant differences between group means for this variable,  $F(3,76) = 1.76$ ,  $p = 0.1614$  (see Table 21).

#### Suspicion Index Analysis:

Suspicion Index data as rated by the experimenter and a blind rater based upon the transcribed comments of the participants (Appendix L) were compiled and percent agreement was calculated for these ratings using the formula:

$$\text{percent agreement} = \frac{\text{\# cases where raters agree}}{\text{\# cases agree} + \text{\# cases disagree}}$$

This yielded a percent agreement score of 80% between the two raters. An analysis of variance performed on the experimenter's ratings of suspicion (dependent variable SI) indicated no significant differences among the groups on this rating,  $F(3,76) = 0.68$ ,  $p = 0.5687$  (see Table 22). Similarly, an analysis of variance performed on the suspicion ratings endorsed by the blind rater

(dependent variable SI2) yielded no significant differences among groups,  $F(3,76) = 1.13, p = 0.3414$  (see Table 23). Comparisons of the Suspicion Index data as compiled by the experimenter and the blind rater indicates a somewhat higher level of rated suspicion by the blind rater for three of the four groups relative to the experimenter's ratings (see Figure 6). In examining the individual ratings for all participants (see Table 5), a full 70% (56 of 80) of participants were rated by both experimenter and blind rater as evidencing no suspicion prior to debriefing, while only 6% (5 of 80) of the participants were rated by both experimenter and blind rater as displaying unambiguous suspicion.

#### Feedback Form Data:

Ratings completed by participants on the Feedback Forms (Appendix J), wherein the participant was asked to assess the performance of themselves and their significant other during the interactive period, were compiled (see Figure 7). It is evident from these ratings that participants in all four groups tended to rate themselves and their significant others positively with regard to performance during the interaction, with little apparent difference among the four experimental groups in these ratings. This is confirmed by analyses of variance performed on the participant's ratings of themselves,  $F(3,76) = 1.15, p = 0.3337$  (see Table 24) and their significant other,  $F(3,76) = 0.19, p = 0.9041$  (see Table 25), which yielded no significant group differences on either of these measures.

#### Relationship with Significant Other:

A descriptive comparison of information about the participant's relationship with the significant other reveals a number of trends across the four experimental

groups. Participants and significant others completed the Dyadic Adjustment Scale prior to the manipulation, and these data were tabulated by group (see Figure 8). It should be noted that, as the data were compiled as mean item scorings, with an upper limit of five on the items, the absolute range for the means was from 0 to 5. An analysis of variance for these data indicated a significant difference among the four groups for the Dyadic Adjustment Scale completed by the participant,  $F(3,76) = 4.24$ ,  $p = 0.0080$  (see Table 26), while no group effect was detected for the Dyadic Adjustment Scales completed by significant others,  $F(3,76) = 0.30$ ,  $p = 0.8273$  (see Table 27). A post-hoc pairwise comparison of mean differences using the Scheffe test indicated that the mean for Group 2 (Histrionic / Narcissist Controls) (mean = 4.07) differed significantly from the mean for Group 3 (Other Personality Control) (mean = 3.62) with Alpha = 0.05. This finding indicates that the Histrionic / Narcissist participants rated their dyadic adjustment with their significant other higher than did the individuals in the Other Personality Control group.

The duration of the relationship with the significant other as reported by the participant was compiled (see Figure 9), and a comparison across groups indicates that mean relationship duration was highest for Group 3 (Other Personality Control), followed by Group 1 (Dependent Personality). Group 2 (Histrionic / Narcissist Control) was found to evidence the shortest reported mean duration of the relationship. An analysis of variance performed on these data, however, failed to indicate any significant group difference among experimental groups for this variable,  $F(3,76) = 2.16$ ,  $p = 0.1000$  (see Table 28).

Participants were also asked to indicate the degree to which their relationship with the significant other was important to them (see Figure 10).

Examination of these group means suggests a uniformly high level of rated importance across the four experimental groups, and an analysis of variance performed on the data indicated no significant differences among the group means for this measure,  $F(3,76) = 2.00$ ,  $p = 0.1218$  (see Table 29). Similarly, the participants' ratings of how emotionally close they perceived the relationship being yielded a uniformly high level of closeness across the four groups (see Figure 11), and an analysis of variance for this measure revealed no significant difference among the four experimental groups,  $F(3,76) = 1.16$ ,  $p = 0.3321$  (see Table 30).

## CHAPTER IV

### DISCUSSION

The present study was designed to assess the effects of simulated criticism from significant others on depressive affect in dependent personalities. It was predicted that simulated criticism from a significant other would result in a greater increase in depressive affect in dependent personalities than in other personality styles. The present findings would appear to lend support for such an effect in persons with dependent personalities.

The central prediction offered at the outset of the project was that depressed mood would increase following the manipulation to a greater degree for the Dependent group than for the three Control groups. Support for this prediction was found in the analysis of the amount of change in depressive affect for the different groups across the measurements of the dependent variable in the study. These findings indicate a significant difference ( $p < 0.0100$ ) in the magnitude of change in depressed affect among the four groups between the Pre-manipulation dependent measure and the Post-manipulation dependent measure. Thus, it would appear that the experimental groups displayed a differing magnitude of change in their depressive affect between the Pre-manipulation and Post-manipulation measures. An examination of the difference scores for each group across these two administrations of the dependent measure indicates that the Dependent group displayed the greatest magnitude difference in their depressive affect (adjusted mean difference score = 8.55), followed by the Histrionic / Narcissist group (adjusted mean difference score = 6.32) and Other Personality

Disorder group (adjusted mean difference score = 4.89), with the Normal Control group displaying the least difference (adjusted mean difference score = 4.59). The planned comparison of these difference scores indicated that the Dependents displayed a greater increase in depressed affect following the manipulation than did the Other Personality Control and Normal Control groups. A further analysis indicated that each of these difference scores, with the exception of the Other Personality Control score, differed significantly from zero. These findings support the idea that the Dependents, Histrionic / Narcissists, and Normal Controls all displayed significant increases in depressive affect following the manipulation, while the Dependents demonstrated a greater degree of increased depression than did the Other Personality Controls and the Normal Controls. This supports the prediction that dependent individuals would display a greater increase in depressive affect, relative to other groups, as a result of simulated criticism from significant others.

Another central prediction offered at the outset of the project was that the four groups would display differing levels of depressive affect following the experimental manipulation, with the Dependent group displaying the greatest level, followed by the Histrionic / Narcissistic group. This prediction was made based upon the importance, as discussed above, of the trait of sensitivity to criticism in the dependent personality diagnosis, and based upon the additional fact that histrionic and narcissistic individuals are also thought to be needy of approval or praise from others. This general prediction was borne out in the significant group mean difference finding for the fourth (Post-manipulation) administration of the dependent measure of depressive affect. An examination of the group mean data for that dependent measure indicates that the hierarchy of

the four group means adheres to the predicted level of depressive affect following the reception of simulated criticism, with the Dependent personalities scoring highest, followed by the Histrionic / Narcissist group. The group of individuals with Other personality disorders not usually associated with sensitivity to criticism or desire for approval scored lower than these two groups, with the normal controls scoring lowest of the four on depressive affect following the manipulation. The planned analysis of the group mean pairwise comparisons for this variable detected a significant difference between the Dependent group and the Other Personality and Normal controls, as predicted. This finding supports the hypothesis that criticism from a significant other will result in a greater level of depressive affect in dependent personalities relative to individuals with other personality styles and normal individuals. The fact that the Histrionic / Narcissist group failed to differ significantly from the other three groups suggests that it is not possible, given the present data, to distinguish the Histrionics and Narcissists from the other groups with regard to their response to criticism from significant others. This is consistent with the fact that a need for positive attention represents a central psychological concern for these individuals, which increases their affective sensitivity to the sort of simulated criticism utilized in this investigation. This factor makes it difficult to reliably distinguish the response of these individuals as a group to such simulated criticism from the responses of the other groups in the study.

As noted above, the present findings also indicate that participants, considered as a whole, displayed a significant increase in dysphoric affect upon receipt of the simulated criticism form. This general finding indicates that the manipulation was successful in causing dysphoric affect, and directly supports the

first prediction established at the outset of the study. This result is also consistent with the finding that most of the participants did not suspect deception, and provides further support of the depressive significance of the simulated criticism. It should also be noted that this impact of the simulated criticism appears robust in spite of the fact that the participants consistently assessed the criticism as being both inaccurate and atypical of their significant other. The present findings do not make clear whether the depressive reaction to the simulated criticism was enhanced by the participant's impression of inaccuracy and abnormality in the feedback, or whether this impression was incidental. In any case, it is clear that the feedback was perceived as depressing.

Concerns about the accuracy and typicality of the feedback by the participants are to be anticipated, given the nature of the analogue population used in this study. In addition to the fact that the college undergraduate population recruited for the project likely displays sub-clinical levels of personality pathology, it should be noted again that both acutely and chronically depressed individuals were excluded from participation in the study through the various screening criteria employed in participant selection. Thus, it might well be assumed that most participants were presently having their interpersonal needs adequately met through their social support systems, including the significant other who accompanied them to the study. This conclusion may be safely drawn from the fact that they were neither found to be chronically depressed on the personality screening measure, nor more acutely depressed as assessed on the Beck Depression Inventory. It is therefore believed that the accuracy and typicality ratings established by the participants in the study are reflective of the higher level of adjustment and stability of interpersonal support which would be



consistent with the general, non-clinical population from which they were drawn. At the same time, based upon the arguments cited earlier supporting the use of analogue populations in studying personality pathology (Bornstein et al., 1990; Frances, 1980), it is suggested that the present findings are valid with regard to their relevance to the response of different personality styles to less supportive or more negatively critical experiences within their social support network.

A review of information gathered about the nature of the participant's relationship with the significant other suggests one notable difference among the four experimental groups with regard to the nature of the relationship. The findings indicate that the individuals with *Other Personality* styles endorsed a significantly lower level of dyadic adjustment than did the *Histrionic / Narcissistic* individuals. This result might be accounted for based upon the personality styles of these two control groups. Thus, it would be consistent with clinical information about histrionic and narcissistic individuals that they would tend to over-idealize significant others to a greater degree than would members of the group with other personality styles, which included paranoid and borderline individuals who might be expected to devalue significant others to some extent. Again, however, it should be noted that this difference had little impact on the relationship's importance and closeness as perceived by the participant, and it is felt therefore that the present findings indicate that the participant selection and screening procedure was largely successful in ensuring that persons accompanying the participant to the study were truly "significant" others, regardless of differences in the adjustment of the relationship.

Given that the present findings support the hypotheses set forth in this study, a number of possible avenues for further research and investigation are

apparent at this point. As the present findings support the utility in such research of using actual significant others as sources of potential trigger events for depressive episodes in personality disordered individuals, it is felt that additional studies could clarify a number of the issues associated with the effects noted here. Since the current investigation examined the magnitude of depressive response to simulated criticism immediately following assimilation of that feedback, it would be important to determine how dependent persons, as well as individuals with other personality styles, respond over a longer period of time to such feedback from significant other. Given that the present study only examined immediate depressive response to the feedback and followed this with a complete debriefing, it would be important to examine how various personality groups respond over longer periods of time to criticism from a significant other. While it might be posited that individuals with personality disorders, and perhaps dependent personalities especially, are likely to respond more inflexibly and recover more slowly from such negative messages, it would be informative to test such a hypothesis with an experimental manipulation similar to the manipulation employed in this study. Also, it would be quite helpful to replicate the present findings in a clinical population, and determine whether such a greater level of personality pathology exacerbates the depressive reactions noted here. Of course, such further investigations would require experimental designs geared toward addressing the ethical quandaries posed by studying depressive responses which might prove potentially more severe or more enduring than those observed in this study, but it is felt that such efforts would provide further information about the nature of the link between dependent personality pathology and depression.

In considering the applicability of the present results in clinical practice, it should be noted that a certain lack of specificity with regard to the depressive process in dependent personalities remains. The current investigation employed only one dependent measure of depressed affect, and as such fails to assess the full symptom range of depression resulting from precipitating events such as criticism. Also, further information with regard to the cognitive component of the depressive reaction to criticism would be helpful, as it would explicate the internal process which mediates between the external event of criticism and the internal experience of depression. Thus, some individuals may respond to criticism with feelings of low self esteem, while others might mourn their significant other's poor judgement displayed in the criticism. Until future research clarifies such issues and their relationship to dependent personality, practicing clinicians will need to draw such conclusions for themselves based upon specific factors gleaned from the individual therapy situation in determining the types of criticism or feedback likely to cause depression for an individual in treatment.

Further studies in this line of research might also gather data with regard to the frequency of actual, experienced criticism from significant others in the lives of persons with clinical levels of depression and dependency. As it is believed that this investigation sampled participants who were non-depressed and likely experienced a greater degree of support and positive feedback than a clinical population might experience, it would be important to explore the extent to which criticism from significant others is correlated with the onset or exacerbation of episodes of depression in dependent personalities. In contrast, it would also be helpful to study how depressed individuals with dependent personality respond to positive feedback, and how their response to such support from significant others

might differ from that of individuals with other personality styles in terms of its short- and long-term effect on their depressed mood. If criticism triggers or exacerbates depression in dependent personalities, it will be important to understand how such responses may be prevented, modified, or counteracted in everyday interpersonal exchange as well as in clinical treatment.

Along these lines, it is felt that greater research scrutiny might be afforded the specific type of criticism to which dependents might be particularly sensitive or susceptible. While the present study incorporated a number of criticisms into the bogus feedback form, it would seem reasonable to suggest that some critiques are more likely to arouse depression or negative feelings than others. It may well be the case that dependent individuals are capable of responding with a degree of equanimity to certain criticisms or negative comments from significant others, while being highly sensitive to other critiques. Such information would likely be quite helpful in clinical practice, for instance, in that it would suggest the nature of the critiques that a person with dependent personality might well be able to assimilate and make therapeutic use of in the clinical work, while dictating the sort of feedback that would be more likely to arouse or exacerbate depression in an unhelpful way. Such information would also be of benefit in aiding significant others in learning how to support the dependent and avoid exacerbating depressive episodes during their everyday lives.

Thus, it is hoped that the ultimate gain of such a line of research would be a greater understanding of which interpersonal events precipitate depression in persons with personality pathology, how the individual responds to this, and how they might recover from or combat such depression. Identifying the sort of potential trigger events studied in this investigation would provide insight into how

such interpersonal exchanges and relationships might be modified in clinical treatment as a means of preventing, minimizing, or treating depressive episodes. In that light, it is felt that investigations of the sort undertaken here represent a positive step in further explicating the process by which personality factors impact the multiply determined manner in which individuals experience episodes of depressive affect throughout their life. Further understanding of the functional link between personality and affective disturbance will be crucial in advancing our ability to understand how depression arises from interpersonal exchange, and how personality pathology shapes that exchange and determines the emotional consequences for each individual.

## BIBLIOGRAPHY

- Akiskal, H.S., Hirschfield, R., & Yerevanian, B. (1983). The relation of personality to affective disorders. *Archives of General Psychiatry*, 40, 801-810.
- American Psychiatric Association (1980). Diagnostic and Statistical Manual of Mental Disorders (Third edition). Washington, DC.: American Psychiatric Association.
- American Psychiatric Association (1987). Diagnostic and Statistical Manual of Mental Disorders (Third edition - Revised). Washington, DC.: American Psychiatric Association.
- Arieti, S., & Bemporad, J.R. (1980). The psychological organization of depression. *American Journal of Psychiatry*, 137, 1360-1366.
- Beck, A.T. (1981). Cognitive therapy of depression: New perspectives. In P. Clayton & J. Barrett (Eds.), Treatment of depression: Old controversies and new approaches. New York: Raven Press.
- Becker, J. (1977). Affective Disorders. New York: General Learning Press.
- Birtchnell, J. (1988). Defining dependence. *British Journal of Medical Psychology*, 61, 111-123.
- Blatt, S. J. (1974). Levels of object representation in anaclitic and introjective depressives. *Psychoanalytic Study of the Child*, 29, 426-427.
- Bornstein, R.F., & Johnson, J.G. (1990). Dependency in a nonclinical sample. *Journal of Social Behavior and Personality*, 5, 417-422.
- Brown, G.W., & Harris, T.O. (1978). Social Origins of Depression, The Free Press, New York, pp. 174-176.
- Catterall, W.V. (1990). The effects of extinction following social reinforcement on depressive symptomatology in dependent personalities. Unpublished Masters thesis, University of North Carolina at Greensboro.
- Charney, D.S., Nelson, J.C., & Quinlan, D.M. (1981). Personality traits and disorder in depression. *American Journal of Psychiatry*, 138, 1601-1604.

- Chodoff, P. (1972). The depressive personality: A critical review. Archives of General Psychiatry, 27, 666-673.
- Coleman, Butcher, & Carson, R. (1984). Abnormal Psychology in Modern Life. Scott, Foresman and Company: Glenview, Illinois.
- Farmer, R. & Nelson-Gray, R.O. (1990) Personality disorders and depression: Hypothetical relations, empirical findings, and methodological considerations. Clinical Psychology Review, 10, 453-476.
- Ferster, C. B. (1973). A functional analysis of depression. American Psychologist, 28, 857-870.
- Frances, A. (1980). The DMS-III personality disorders section: A commentary. American Journal of Psychiatry, 137, 1050-1054.
- Freud, S. (1968). Mourning and melancholia. In W. Gaylin (Ed.), The meaning of despair (pp. 50-70). New York: Science House. (Original work published in 1917).
- Friedman, R.C., Aronoff, M.P., Clarkin, J.F., Corn, R., & Hurt, S.W. (1983). History of suicidal behavior in depressed borderline patients. American Journal of Psychiatry, 140, 1023-1026.
- Greenberg, R.P., & Bornstein, R.F. (1988). The dependent personality: II. Risk for psychological disorders. Journal of Personality Disorders, 2, 136-143.
- Grinker, R.R., Miller, J., Sabshin, M., Nunn, R., & Nunnally, J. (1961). The phenomenon of depressions. New York: Hoeber.
- Hammen, C., Marks, T., Mayol, A., & deMayo, R. (1985). Depressive self-schemas, life stress, and vulnerability to depression. Journal of Abnormal Psychology, 94, 308- 319.
- Hammen, C., Ellicott, A., Gitlin, M., & Jamison, K. (1989). Sociotropy/autonomy and vulnerability to specific life events in patients with unipolar depression and bipolar disorders. Journal of Abnormal Psychology, 98, 154-160.
- Hirschfield, R., Klerman, G., Clayton, P., & Keller, M. (1983). Personality and depression. Archives of General Psychiatry, 40, 993-998.

- Klein, D.N., Harding, K., Taylor, E.B., & Dickstein, S. (1988). Dependency and self-criticism in depression: Evaluation in a clinical population. Journal of Abnormal Psychology, 97, 399-404.
- Klerman, G.L. (1973). The relationship between personality and clinical depression: Overcoming the obstacles to verifying psychodynamic theories. International Journal of Psychiatry, 11, 227-233.
- Leber, W.R., Beckham, E.E., & Danker-Brown, P. (1985). Diagnostic criteria for depression. In E.E. Beckham & W.R. Leber (Eds.), Handbook of depression: Treatment, assessment, and research (pp. 343-371). Homewood, IL: Dorsey Press.
- Leonard, C.V. (1974). Depression and suicidality. Journal of Consulting and Clinical Psychiatry, 15, 205-208.
- Leventhal, S.D. (1991). Personality Disorders as a Predispositional Factor in Depression. Unpublished Masters Thesis, University of North Carolina at Greensboro.
- Lewinsohn, P.M. (1974). A behavioral approach to depression. In R.J. Friedman & M.M. Katz (Eds.), The psychology of depression: Contemporary theory and research (pp. 156-185). Washington, DC: V.H. Winston & Sons.
- Lubin, B. (1966). Fourteen brief depression adjective check lists. Archives of General Psychiatry, 15, 205-208.
- Lubin, B., & Himelstein, P. (1976). Reliability of the Depression Adjective Check Lists. Perceptual and Motor Skills, 43, 1037-1038.
- Manos, N., Vasilopoulou, E., Sotirou, M. (1987). DSM-III diagnosed borderline personality disorder and depression. Journal of Personality Disorders, 1, 263- 268.
- Matussek, P., & Feil, W. (1983). Personality attributes of depressive patients. Archives of General Psychiatry, 40, 783-790.
- Millon, T. (1969). Modern psychopathology. Philadelphia: W. B. Saunders.
- Millon, T. (1977). Manual for the Millon Clinical Multiaxial Inventory. Minneapolis: National Computer Systems.



- Millon, T. (1981). Disorders of personality: DSM-III: Axis II. New York: John Wiley & Sons.
- Millon, T., & Kotik, D. (1985). The relationship of depression to disorders of personality. In E.E. Beckham & W.R. Leber (Eds.), Handbook of Depression: Treatment, Assessment, and Research (pp. 700-743). Homewood, IL: Dorsey Press.
- Mongrain, M., & Zuroff, D.C. (1989). Cognitive vulnerability to depressed affect in dependent and self-critical college women. Journal of Personality Disorders, 3, 240-251.
- Nietzel, M.T., & Harris, M.J. (1990). Relationship of dependency and achievement/autonomy to depression. Clinical Psychology Review, 10, 279-297.
- Paykel, E.S., Klerman, G.L., & Prusoff, B.A. (1979). Personality and symptom pattern in depression. British Journal of Psychiatry, 129, 327-334.
- Pfohl, B., Stangl, D., & Zimmerman, M. (1984). The implications of DSM-III disorders for patients with major depression. Journal of Affective Disorders, 7, 309-318.
- Robins, C. and Block, P. (1988). Personality vulnerability, life events, and depressive symptoms: A test of a specific interactional model. Journal of Personality and Social Psychology, 54, 847-852.
- Rogers, J.M. (1960). Operant conditioning in a quasi-therapy setting. Journal of Abnormal and Social Psychology, 60, 247-252.
- Shea, M.T., Glass, D.R., Pilkonis, P.A., Watkins, J., Docherty, J.P. (1987). Frequency and implications of personality disorders in a sample of depressed outpatients. Journal of Personality Disorders, 1, 27- 42.
- Velten, E. (1968). A laboratory task for induction of mood states. Behavioral Research and Therapy, 6, 473-482.
- Zuroff, D.C. & Mongrain, M. (1987). Dependency and self-criticism: Vulnerability factors for depressive affective states. Journal of Abnormal Psychology, 96, 14-22.

Zuroff, D.C., Igeja, I., & Mongrain, M. (1990) Dysfunctional attitudes, dependency, and self-criticism as predictors of depressive mood states: A 12 month longitudinal study. Cognitive Therapy and Research, 14, 315-326.

**APPENDIX A****SUMMARY OF DSM-III-R<sup>a</sup> CRITERIA FOR  
MAJOR DEPRESSION AND DYSTHYMIA****I. Major Depressive Episode**

**A. At least five of the following symptoms have been present during the same two-week period and represent a change from previous functioning; at least one of the symptoms is either (1) depressed mood, or (2) loss of interest or pleasure.**

- (1) depressed mood most of the day, nearly every day, as indicated either by subjective account or observation by others.**
- (2) markedly diminished interest or pleasure in all, or almost all, activities most of the day, nearly every day.**
- (3) significant weight loss or gain when not dieting, or decrease or increase in appetite nearly every day.**
- (4) insomnia or hypersomnia nearly every day.**
- (5) psychomotor agitation or retardation nearly every day (observable by others).**
- (6) fatigue or loss of energy nearly every day.**
- (7) feelings of worthlessness or excessive or inappropriate guilt nearly every day.**
- (8) diminished ability to think or concentrate, or indecisiveness, nearly every day.**
- (9) recurrent thoughts of death, recurrent suicidal ideation without specific plan, or suicide attempt or a specific plan for committing suicide.**

- B. (1) It cannot be established that an organic factor initiated and maintained the disturbance.**  
**(2) The disturbance is not a normal reaction to the death of a loved one.**

**C. At no time during the disturbance have there been delusions or hallucinations for as long as two weeks in the absence of prominent mood symptoms.**

**D. Not superimposed on Schizophrenia, etc.**

<sup>a</sup> adapted from American Psychiatric Association, 1987.

**APPENDIX A (cont.)****II. Dysthymia**

**A. Depressed mood for most of the day, more days than not, as indicated either by subjective account or observation by others, for at least two years.**

**B. Presence, while depressed, of at least two of the following:**

- (1) poor appetite or overeating**
- (2) insomnia or hypersomnia**
- (3) low energy or fatigue**
- (4) low self-esteem**
- (5) poor concentration**
- (6) feelings of hopelessness**

**C. During a two-year period of the disturbance, never without symptoms in A for more than two months at a time.**

**D. No evidence of an unequivocal Major Depressive Episode during the first two years of the disturbance.**

**E. Has never had a Manic Episode or an unequivocal Hypomanic Episode.**

**F. Not superimposed on a chronic psychotic disorder, such as Schizophrenia or Delusional Disorder.**

**G. It cannot be established that an organic factor initiated and maintained the disturbance.**

**APPENDIX B**

**REINFORCEMENT MATRIX<sup>a</sup> FOR PERSONALITY  
DISORDERS AND INCIDENCE<sup>b</sup> AMONG  
MAJOR DEPRESSIVES**

| Instrumental<br>Behavior<br>Pattern | Source of Reinforcement |                               |                        |                 |
|-------------------------------------|-------------------------|-------------------------------|------------------------|-----------------|
|                                     | <u>Independent</u>      | <u>Dependent</u>              | <u>Ambivalent</u>      | <u>Detached</u> |
| Active<br>(proactive)               | Antisocial              | Histrionic<br>.04             | Passive-<br>aggressive | Avoidant<br>.13 |
| Passive<br>(reactive)               | Narcissistic            | Dependent <sup>c</sup><br>.06 | Compulsive<br>.13      | Schizoid        |

<sup>a</sup> from Millon, 1981.

<sup>b</sup> Numbers refer to rate of occurrence in general population, according to Shea et al., 1987.

<sup>c</sup> personality disordered group investigated in this study.

**APPENDIX C**  
**SUMMARY OF DSM-III-R<sup>a</sup> CRITERIA FOR  
DEPENDENT PERSONALITY DISORDER**

**Dependent Personality Disorder**

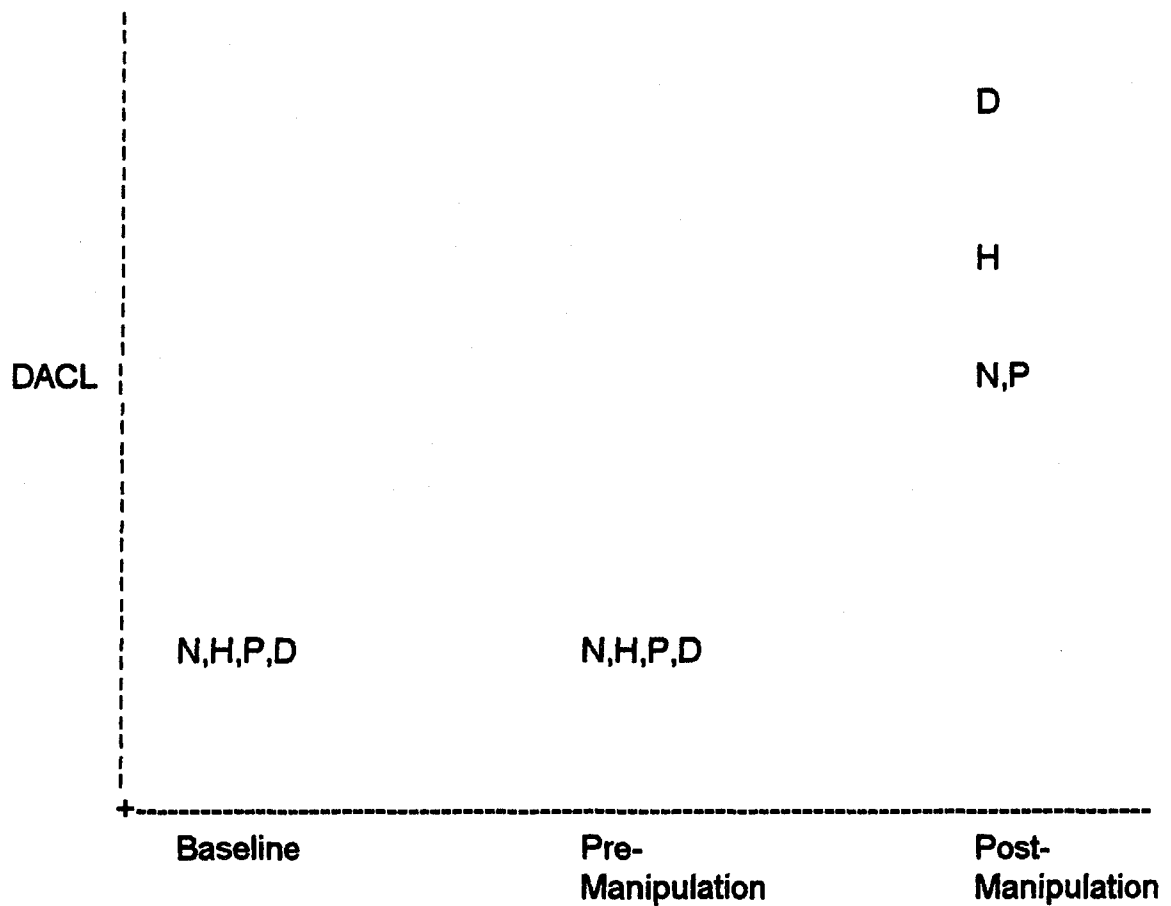
A pervasive pattern of dependent and submissive behavior, beginning by early adulthood and present in a variety of contexts, as indicated by at least five of the following:

- (1) is unable to make everyday decisions without an excessive amount of advice or reassurance from others.
- (2) allows others to make most of his or her important decisions, e.g., where to live, what job to take.
- (3) agrees with people even when he or she believes they are wrong, because of fear of being rejected.
- (4) has difficulty initiating projects or doing things on his or her own.
- (5) volunteers to do things that are unpleasant or demeaning in order to get other people to like him or her.
- (6) feels uncomfortable or helpless when alone, or goes to great lengths to avoid being alone.
- (7) feels devastated or helpless when close relationships end.
- (8) is frequently preoccupied with fears of being abandoned.
- (9) is easily hurt by criticism or disapproval.

<sup>a</sup> from American Psychiatric Association, 1987.

**APPENDIX D**

Predictions



D = Dependent  
H = Histrionic / Narcissist Control  
P = Other Personality Disorder Control  
N = Normal Control

**Appendix E****Tables**

**Table 1: Median Base Rate Scores and  
Critical Cut-Off Scores based on the responses of  
2775 Introductory Psychology Students**

| Scale                        | Median Base<br>Rate Score | BR 75th<br>Percentile | Critical<br>BR Score |   |
|------------------------------|---------------------------|-----------------------|----------------------|---|
| 1 (Schizoid)                 | 27                        | 52                    | 60                   |   |
| 2 (Avoidant)                 | 40                        | 62                    | 65                   | * |
| 3 (Dependent)                | 60                        | 79                    | 80                   | * |
| 4 (Histrionic)               | 78                        | 88                    | 90                   | * |
| 5 (Narcissistic)             | 68                        | 81                    | 85                   | * |
| 6 (Antisocial)               | 65                        | 70                    | 80                   |   |
| 7 (Compulsive)               | 65                        | 70                    | 80                   |   |
| 8 (Passive Aggressive)       | 35                        | 65                    | 70                   | * |
| S (Schizotypal)              | 46                        | 56                    | 60                   |   |
| C (Borderline)               | 54                        | 65                    | 70                   | * |
| P (Paranoid)                 | 65                        | 72                    | 80                   | * |
| A (Anxiety)                  | 67                        | 77                    | 80                   |   |
| H (Somatoform)               | 68                        | 79                    | 82                   |   |
| N (Hypomanic)                | 58                        | 67                    | 75                   |   |
| D (Dysthymic)                | 51                        | 75                    | 80                   | * |
| B (Alcohol Abuse)            | 40                        | 61                    | 67                   |   |
| T (Drug Abuse)               | 62                        | 70                    | 80                   |   |
| SS (Psychotic<br>Thinking)   | 52                        | 60                    | 65                   |   |
| CC (Psychotic<br>Depression) | 47                        | 58                    | 65                   |   |
| PP (Psychotic<br>Delusion)   | 60                        | 65                    | 75                   |   |

\* Personality scales used  
in this study



**Appendix E (cont.)****Table 2: MCMC Participant Data**

| Subj | Grp. | 1  | 2  | 3  | 4   | 5   | 6  | 7  | 8  | S  | C  | P  | A  | H  | N  | D  | B  | T  | SS | CC | PP |
|------|------|----|----|----|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 1    | 3    | 14 | 8  | 20 | 85  | 81  | 73 | 32 | 86 | 1  | 44 | 52 | 48 | 0  | 0  | 48 | 30 | 62 | 62 | 47 | 71 |
| 2    | 2    | 16 | 8  | 31 | 85  | 103 | 64 | 68 | 40 | 10 | 35 | 75 | 38 | 38 | 69 | 10 | 20 | 66 | 54 | 35 | 71 |
| 3    | 4    | 24 | 29 | 20 | 68  | 57  | 45 | 65 | 24 | 50 | 38 | 32 | 50 | 60 | 7  | 45 | 7  | 22 | 45 | 42 | 22 |
| 4    | 2    | 10 | 4  | 2  | 0   | 85  | 0  | 0  | 33 | 11 | 6  | -4 | 15 | 41 | 65 | 10 | 35 | 64 | 44 | 35 | 5  |
| 5    | 4    | 10 | 4  | 38 | 81  | 78  | 61 | 69 | 19 | 28 | 31 | 55 | 69 | 69 | 66 | 63 | 45 | 50 | 35 | 35 | 30 |
| 6    | 4    | 40 | 15 | 61 | 65  | 67  | 39 | 71 | 19 | 43 | 31 | 72 | 63 | 72 | 54 | 48 | 35 | 50 | 49 | 35 | 68 |
| 7    | 3    | 14 | 46 | 31 | 85  | 78  | 90 | 23 | 78 | 47 | 64 | 64 | 82 | 62 | 85 | 77 | 75 | 79 | 54 | 47 | 40 |
| 8    | 4    | 24 | 15 | 61 | 49  | 76  | 61 | 85 | 10 | 46 | 31 | 69 | 43 | 66 | 58 | 48 | 30 | 50 | 44 | 39 | 71 |
| 9    | 1    | 12 | 29 | 92 | 74  | 71  | 54 | 64 | 33 | 44 | 41 | 60 | 38 | 51 | 60 | 20 | 45 | 66 | 44 | 43 | 40 |
| 10   | 1    | 10 | 23 | 85 | 71  | 71  | 45 | 65 | 16 | 36 | 16 | 62 | 16 | 45 | 63 | 36 | 63 | 63 | 36 | 36 | 65 |
| 11   | 2    | 14 | 23 | 75 | 90  | 85  | 79 | 49 | 47 | 49 | 51 | 70 | 69 | 82 | 67 | 48 | 45 | 75 | 44 | 43 | 40 |
| 12   | 2    | 15 | 15 | 18 | 109 | 88  | 61 | 62 | 40 | 23 | 57 | 37 | 67 | 79 | 65 | 63 | 35 | 60 | 35 | 40 | 30 |
| 13   | 2    | 24 | 4  | 2  | 94  | 88  | 68 | 63 | 52 | 18 | 31 | 68 | 69 | 28 | 69 | 38 | 35 | 71 | 49 | 35 | 30 |
| 14   | 2    | 20 | 5  | 56 | 105 | 76  | 75 | 62 | 40 | 23 | 51 | 73 | 70 | 72 | 73 | 43 | 55 | 71 | 50 | 30 | 55 |
| 15   | 2    | 34 | 15 | 38 | 90  | 85  | 73 | 40 | 57 | 52 | 63 | 77 | 76 | 88 | 69 | 72 | 62 | 83 | 54 | 43 | 64 |
| 16   | 2    | 45 | 50 | 56 | 78  | 93  | 70 | 69 | 40 | 47 | 50 | 70 | 42 | 47 | 58 | 35 | 45 | 66 | 61 | 54 | 70 |
| 17   | 4    | 18 | 4  | 2  | 68  | 57  | 39 | 64 | 16 | 49 | 63 | 61 | 43 | 72 | 40 | 72 | 40 | 50 | 38 | 43 | 64 |
| 18   | 2    | 16 | 8  | 31 | 94  | 88  | 79 | 37 | 40 | 28 | 60 | 72 | 69 | 75 | 75 | 63 | 55 | 75 | 49 | 39 | 30 |
| 19   | 2    | 15 | 40 | 60 | 93  | 105 | 67 | 68 | 35 | 25 | 41 | 72 | 42 | 50 | 73 | 39 | 66 | 73 | 58 | 44 | 70 |
| 20   | 3    | 20 | 38 | 69 | 75  | 65  | 35 | 72 | 43 | 52 | 73 | 68 | 83 | 89 | 40 | 71 | 55 | 62 | 50 | 44 | 55 |
| 21   | 2    | 18 | 15 | 29 | 93  | 110 | 72 | 73 | 35 | 15 | 44 | 66 | 30 | 51 | 75 | 22 | 62 | 69 | 40 | 44 | 65 |
| 22   | 2    | 15 | 15 | 39 | 82  | 93  | 67 | 80 | 16 | 8  | 10 | 60 | 30 | 41 | 60 | 22 | 30 | 62 | 40 | 30 | 55 |
| 23   | 2    | 18 | 15 | 56 | 85  | 88  | 69 | 70 | 29 | 35 | 20 | 67 | 39 | 44 | 65 | 5  | 35 | 71 | 55 | 30 | 65 |
| 24   | 2    | 18 | 8  | 50 | 109 | 68  | 69 | 60 | 35 | 43 | 36 | 56 | 70 | 69 | 60 | 38 | 40 | 66 | 40 | 30 | 15 |
| 25   | 1    | 8  | 5  | 96 | 66  | 76  | 44 | 68 | 5  | 8  | 61 | 66 | 55 | 62 | 68 | 51 | 62 | 0  | 35 | 58 | 65 |
| 26   | 3    | 62 | 67 | 56 | 52  | 65  | 35 | 68 | 75 | 51 | 52 | 55 | 55 | 54 | 50 | 58 | 30 | 35 | 61 | 65 | 65 |
| 27   | 4    | 45 | 50 | 29 | 30  | 37  | 54 | 85 | 10 | 56 | 58 | 44 | 77 | 73 | 7  | 78 | 42 | 7  | 52 | 37 | 47 |
| 28   | 3    | 65 | 30 | 25 | 49  | 76  | 70 | 73 | 16 | 46 | 26 | 83 | 67 | 66 | 50 | 33 | 30 | 40 | 50 | 30 | 70 |
| 29   | 2    | 15 | 30 | 56 | 102 | 88  | 65 | 62 | 29 | 33 | 57 | 72 | 58 | 69 | 69 | 38 | 40 | 71 | 40 | 44 | 61 |
| 30   | 2    | 27 | 30 | 25 | 78  | 93  | 85 | 54 | 50 | 35 | 55 | 70 | 48 | 51 | 50 | 55 | 62 | 77 | 50 | 40 | 61 |
| 31   | 3    | 52 | 77 | 69 | 45  | 37  | 54 | 62 | 65 | 59 | 46 | 55 | 63 | 54 | 65 | 51 | 45 | 35 | 63 | 49 | 30 |
| 32   | 2    | 0  | 15 | 25 | 102 | 115 | 75 | 62 | 43 | 8  | 10 | 67 | 30 | 44 | 75 | 10 | 45 | 71 | 40 | 30 | 40 |
| 33   | 4    | 12 | 23 | 20 | 85  | 74  | 69 | 0  | 5  | 49 | 26 | 56 | 43 | 66 | 67 | 33 | 20 | 50 | 45 | 30 | 30 |
| 34   | 3    | 62 | 38 | 29 | 22  | 71  | 85 | 70 | 75 | 29 | 50 | 61 | 55 | 47 | 40 | 55 | 66 | 64 | 45 | 62 | 65 |
| 35   | 4    | 52 | 15 | 39 | 58  | 76  | 70 | 95 | 10 | 43 | 26 | 75 | 58 | 63 | 58 | 33 | 20 | 50 | 40 | 40 | 65 |
| 36   | 2    | 45 | 8  | 25 | 97  | 115 | 81 | 69 | 35 | 34 | 40 | 71 | 41 | 55 | 67 | 14 | 54 | 78 | 59 | 39 | 74 |
| 37   | 4    | 27 | 15 | 25 | 78  | 81  | 65 | 73 | 20 | 35 | 10 | 60 | 15 | 38 | 60 | 5  | 10 | 35 | 35 | 30 | 61 |
| 38   | 4    | 45 | 38 | 46 | 67  | 65  | 54 | 72 | 29 | 49 | 66 | 56 | 58 | 72 | 50 | 63 | 30 | 60 | 50 | 44 | 63 |
| 39   | 3    | 32 | 75 | 69 | 67  | 63  | 70 | 20 | 79 | 54 | 52 | 64 | 74 | 58 | 69 | 78 | 55 | 64 | 64 | 58 | 70 |
| 40   | 2    | 20 | 23 | 20 | 78  | 93  | 69 | 69 | 43 | 35 | 44 | 60 | 39 | 44 | 54 | 39 | 30 | 40 | 35 | 40 | 55 |

**Appendix E (cont.)****Table 2: (cont.)**

| Subj | Grp. | 1  | 2  | 3   | 4   | 5   | 6  | 7  | 8  | S  | C  | P  | A   | H  | N  | D  | B  | T  | SS | CC | PP |
|------|------|----|----|-----|-----|-----|----|----|----|----|----|----|-----|----|----|----|----|----|----|----|----|
| 41   | 1    | 15 | 50 | 89  | 85  | 65  | 29 | 62 | 40 | 47 | 44 | 62 | 52  | 56 | 69 | 15 | 40 | 62 | 50 | 44 | 55 |
| 42   | 1    | 20 | 20 | 89  | 78  | 53  | 20 | 58 | 57 | 51 | 51 | 27 | 49  | 60 | 64 | 14 | 39 | 64 | 59 | 53 | 44 |
| 43   | 4    | 20 | 15 | 56  | 67  | 76  | 69 | 75 | 10 | 23 | 26 | 73 | 58  | 66 | 58 | 33 | 30 | 62 | 45 | 30 | 75 |
| 44   | 3    | 35 | 40 | 69  | 67  | 71  | 54 | 72 | 20 | 43 | 71 | 75 | 99  | 84 | 58 | 79 | 55 | 64 | 58 | 44 | 61 |
| 45   | 4    | 12 | 15 | 55  | 68  | 71  | 68 | 69 | 19 | 18 | 51 | 61 | 43  | 69 | 40 | 63 | 35 | 64 | 35 | 39 | 64 |
| 46   | 1    | 14 | 15 | 80  | 78  | 52  | 23 | 69 | 19 | 39 | 39 | 27 | 45  | 42 | 19 | 24 | 24 | 44 | 39 | 39 | 9  |
| 47   | 3    | 40 | 40 | 71  | 85  | 71  | 61 | 73 | 10 | 46 | 57 | 83 | 80  | 79 | 66 | 38 | 40 | 62 | 58 | 30 | 75 |
| 48   | 4    | 27 | 23 | 40  | 77  | 74  | 75 | 70 | 10 | 23 | 26 | 75 | 58  | 66 | 54 | 33 | 30 | 62 | 35 | 30 | 67 |
| 49   | 4    | 27 | 23 | 20  | 38  | 65  | 65 | 75 | 10 | 52 | 35 | 46 | 52  | 47 | 9  | 59 | 19 | 9  | 44 | 39 | 39 |
| 50   | 1    | 66 | 64 | 89  | 18  | 31  | 44 | 73 | 29 | 70 | 66 | 56 | 76  | 89 | 30 | 75 | 30 | 0  | 50 | 54 | 61 |
| 51   | 1    | 45 | 54 | 89  | 67  | 65  | 29 | 65 | 57 | 47 | 61 | 60 | 67  | 47 | 30 | 66 | 55 | 64 | 50 | 54 | 55 |
| 52   | 3    | 18 | 50 | 46  | 58  | 67  | 69 | 54 | 82 | 35 | 44 | 63 | 52  | 60 | 66 | 35 | 40 | 50 | 50 | 58 | 65 |
| 53   | 3    | 35 | 5  | 39  | 38  | 67  | 69 | 70 | 29 | 21 | 31 | 80 | 63  | 33 | 45 | 38 | 25 | 71 | 50 | 54 | 70 |
| 54   | 4    | 20 | 54 | 60  | 38  | 63  | 54 | 72 | 16 | 55 | 54 | 59 | 73  | 75 | 43 | 70 | 48 | 43 | 53 | 52 | 66 |
| 55   | 2    | 15 | 15 | 20  | 105 | 110 | 72 | 67 | 29 | 8  | 41 | 64 | 42  | 41 | 71 | 22 | 40 | 71 | 35 | 30 | 55 |
| 56   | 4    | 45 | 23 | 29  | 67  | 67  | 72 | 72 | 29 | 38 | 35 | 64 | 39  | 38 | 50 | 22 | 55 | 64 | 55 | 30 | 61 |
| 57   | 3    | 66 | 69 | 60  | 75  | 68  | 0  | 65 | 75 | 72 | 78 | 13 | 106 | 94 | 62 | 79 | 0  | 0  | 64 | 65 | 87 |
| 58   | 4    | 27 | 40 | 25  | 82  | 65  | 67 | 68 | 40 | 52 | 51 | 56 | 58  | 69 | 30 | 50 | 30 | 50 | 58 | 30 | 30 |
| 59   | 3    | 65 | 54 | 65  | 82  | 0   | 0  | 63 | 40 | 68 | 73 | 13 | 83  | 88 | 15 | 71 | 0  | 0  | 35 | 49 | 15 |
| 60   | 3    | 15 | 40 | 76  | 82  | 74  | 67 | 67 | 20 | 49 | 75 | 77 | 73  | 82 | 85 | 75 | 55 | 69 | 58 | 44 | 65 |
| 61   | 1    | 0  | 5  | 115 | 82  | 0   | 11 | 65 | 20 | 61 | 57 | 5  | 67  | 66 | 65 | 51 | 62 | 0  | 35 | 49 | 70 |
| 62   | 4    | 45 | 40 | 20  | 58  | 76  | 67 | 72 | 29 | 33 | 36 | 70 | 43  | 66 | 10 | 43 | 30 | 45 | 35 | 44 | 63 |
| 63   | 1    | 15 | 40 | 96  | 67  | 44  | 29 | 72 | 10 | 58 | 60 | 76 | 70  | 85 | 68 | 46 | 48 | 63 | 58 | 43 | 64 |
| 64   | 4    | 52 | 54 | 60  | 75  | 63  | 35 | 48 | 40 | 18 | 68 | 15 | 89  | 86 | 60 | 73 | 2  | 2  | 37 | 51 | 32 |
| 65   | 4    | 50 | 15 | 50  | 38  | 71  | 69 | 95 | 7  | 46 | 26 | 77 | 43  | 69 | 40 | 43 | 40 | 50 | 55 | 30 | 75 |
| 66   | 1    | 45 | 40 | 85  | 78  | 81  | 61 | 54 | 43 | 60 | 55 | 72 | 55  | 64 | 80 | 35 | 55 | 77 | 61 | 49 | 65 |
| 67   | 3    | 80 | 88 | 79  | 3   | 0   | 44 | 75 | 40 | 63 | 48 | -4 | 63  | 58 | 0  | 58 | 10 | 0  | 35 | 30 | 15 |
| 68   | 1    | 27 | 54 | 79  | 82  | 65  | 61 | 62 | 40 | 68 | 60 | 68 | 70  | 75 | 58 | 50 | 35 | 45 | 55 | 58 | 40 |
| 69   | 1    | 45 | 64 | 85  | 30  | 34  | 35 | 73 | 10 | 71 | 27 | 57 | 68  | 73 | 1  | 64 | 1  | 1  | 59 | 31 | 62 |
| 70   | 3    | 75 | 67 | 25  | 52  | 61  | 44 | 70 | 40 | 68 | 66 | 37 | 91  | 84 | 10 | 79 | 35 | 10 | 50 | 58 | 40 |
| 71   | 3    | 35 | 30 | 60  | 88  | 81  | 69 | 62 | 29 | 55 | 57 | 80 | 70  | 79 | 62 | 33 | 66 | 79 | 60 | 40 | 61 |
| 72   | 1    | 69 | 54 | 90  | 85  | 61  | 44 | 57 | 40 | 50 | 60 | 62 | 74  | 66 | 68 | 47 | 62 | 62 | 50 | 54 | 40 |
| 73   | 1    | 15 | 40 | 85  | 78  | 68  | 35 | 80 | 7  | 49 | 51 | 68 | 70  | 72 | 50 | 43 | 30 | 45 | 45 | 40 | 61 |
| 74   | 1    | 0  | 40 | 98  | 88  | 67  | 29 | 73 | 35 | 8  | 55 | 48 | 15  | 0  | 58 | 55 | 55 | 62 | 40 | 58 | 63 |
| 75   | 3    | 71 | 69 | 76  | 58  | 44  | 70 | 69 | 70 | 61 | 61 | 59 | 81  | 53 | -1 | 77 | 44 | 24 | 49 | 43 | 54 |
| 76   | 1    | 27 | 40 | 96  | 58  | 37  | 16 | 69 | 35 | 66 | 66 | 46 | 73  | 87 | 57 | 70 | 13 | 43 | 53 | 43 | 58 |
| 77   | 1    | 27 | 30 | 89  | 67  | 76  | 44 | 95 | 5  | 52 | 36 | 72 | 43  | 82 | 50 | 43 | 40 | 60 | 45 | 40 | 63 |
| 78   | 1    | 0  | 38 | 85  | 0   | 71  | 67 | 0  | 5  | 44 | 10 | 5  | 15  | 0  | 0  | 15 | 0  | 0  | 50 | 30 | 15 |
| 79   | 1    | 27 | 50 | 89  | 38  | 53  | 35 | 73 | 10 | 54 | 62 | 58 | 72  | 84 | 56 | 65 | 37 | 52 | 52 | 42 | 57 |
| 80   | 3    | 78 | 68 | 18  | 67  | 74  | 78 | 57 | 65 | 63 | 55 | 79 | 48  | 44 | 50 | 55 | 35 | 67 | 61 | 44 | 67 |

**Appendix E (cont.)****Table 3: Summary of Pre-Manipulation Ancillary Data by Group**

| Subject                   | Group | Race | P.DAS       | S.O. DAS    | Close       | Impt        | Long        | Nature          |
|---------------------------|-------|------|-------------|-------------|-------------|-------------|-------------|-----------------|
| 9                         | 1     | W    | 3.91        | 4.43        | 7           | 7           | 7           | friend          |
| 10                        | 1     | W    | 3.50        | 4.33        | 7           | 7           | 36          | boyfriend (M)   |
| 25                        | 1     | W    | 3.70        | 4.23        | 7           | 7           | 7           | best friend     |
| 41                        | 1     | W    | 4.03        | 3.93        | 7           | 7           | 48          | best friend     |
| 42                        | 1     | W    | 3.87        | 3.50        | 6           | 7           | 9           | friend          |
| 46                        | 1     | W    | 3.83        | 3.93        | 7           | 7           | 192         | sister          |
| 50                        | 1     | W    | 3.67        | 3.85        | 3           | 5           | 5           | close friend    |
| 51                        | 1     | W    | 3.88        | 3.91        | 6           | 7           | 132         | friend (M)      |
| 61                        | 1     | B    | 4.13        | 4.20        | 6           | 7           | 72          | best friend     |
| 63                        | 1     | W    | 3.47        | 3.22        | 5           | 5           | 3           | friend          |
| 66                        | 1     | W    | 3.82        | 3.89        | 6           | 7           | 3           | best friend     |
| 68                        | 1     | W    | 3.80        | 2.53        | 6           | 6           | 4           | friend          |
| 69                        | 1     | W    | 3.86        | 3.21        | 4           | 6           | 15          | friend          |
| 72                        | 1     | B    | 3.85        | 3.90        | 7           | 7           | 6           | boyfriend (M)   |
| 73                        | 1     | W    | 4.10        | 4.24        | 7           | 7           | 72          | best friend     |
| 74                        | 1     | W    | 3.88        | 3.66        | 4           | 7           | 7           | roommate        |
| 76                        | 1     | W    | 3.70        | 4.32        | 6           | 6           | 5           | best friend     |
| 77                        | 1     | W    | 4.00        | 3.96        | 4           | 6           | 84          | friend          |
| 78                        | 1     | W    | 4.11        | 3.72        | 5           | 4           | 84          | friend          |
| 79                        | 1     | W    | 4.18        | 4.18        | 6           | 7           | 108         | best friend     |
| <b>Dependent means:</b>   |       |      | <b>3.86</b> | <b>3.86</b> | <b>5.80</b> | <b>6.45</b> | <b>45.0</b> |                 |
| 2                         | 2     | W    | 4.00        | 3.76        | 6           | 6           | 18          | good friend (M) |
| 4                         | 2     | W    | 3.80        | 3.58        | 4           | 5           | 12          | roommate        |
| 11                        | 2     | W    | 4.52        | 3.80        | 5           | 7           | 7           | friend          |
| 12                        | 2     | W    | 3.61        | 3.93        | 5           | 7           | 6           | friend          |
| 13                        | 2     | W    | 3.69        | 3.25        | 7           | 7           | 24          | friend          |
| 14                        | 2     | W    | 4.20        | 3.90        | 6           | 7           | 7           | 1 of bst frnd   |
| 15                        | 2     | W    | 4.17        | 3.83        | 7           | 7           | 48          | boyfriend (M)   |
| 16                        | 2     | W    | 3.93        | 3.93        | 7           | 7           | 7           | boyfriend (M)   |
| 18                        | 2     | W    | 4.52        | 3.78        | 6           | 6           | 18          | friend          |
| 19                        | 2     | W    | 4.07        | 3.93        | 7           | 7           | 42          | boyfriend (M)   |
| 21                        | 2     | W    | 3.46        | 3.62        | 7           | 7           | 54          | best friend     |
| 22                        | 2     | W    | 4.33        | 3.83        | 7           | 7           | 60          | best friend     |
| 23                        | 2     | W    | 4.62        | 4.59        | 7           | 7           | 8           | best friend     |
| 24                        | 2     | B    | 4.07        | 3.29        | 6           | 6           | 4           | close friend    |
| 29                        | 2     | W    | 4.00        | 3.79        | 7           | 7           | 20          | boyfriend (M)   |
| 30                        | 2     | W    | 3.97        | 3.79        | 7           | 7           | 9           | best friend     |
| 32                        | 2     | W    | 3.97        | 4.09        | 6           | 7           | 72          | friend          |
| 36                        | 2     | W    | 4.43        | 4.39        | 6           | 7           | 6           | best friend     |
| 40                        | 2     | W    | 3.71        | 3.72        | 6           | 6           | 3           | best friend (M) |
| 55                        | 2     | W    | 4.37        | 4.21        | 7           | 7           | 24          | friend          |
| <b>Hist / Narc means:</b> |       |      | <b>4.07</b> | <b>3.85</b> | <b>6.30</b> | <b>6.70</b> | <b>22.5</b> |                 |

**Appendix E (cont.)****Table 3: (cont.)**

| Subject                | Group | Race | P.DAS       | S.O. DAS    | Close       | Impt        | Long        | Nature          |
|------------------------|-------|------|-------------|-------------|-------------|-------------|-------------|-----------------|
| 1                      | 3     | W    | 4.14        | 4.34        | 7           | 7           | 7           | best friend     |
| 7                      | 3     | W    | 4.17        | 3.80        | 7           | 7           | 84          | close friend    |
| 20                     | 3     | W    | 3.89        | 4.14        | 5           | 6           | 6           | close friend    |
| 26                     | 3     | W    | 3.80        | 3.85        | 7           | 7           | 144         | best friend     |
| 28                     | 3     | B    | 2.14        | 3.03        | 2           | 7           | 228         | sister          |
| 31                     | 3     | W    | 3.16        | 3.33        | 5           | 6           | 18          | good friend     |
| 34                     | 3     | W    | 2.67        | 2.68        | 7           | 7           | 228         | sister          |
| 39                     | 3     | W    | 4.37        | 3.64        | 7           | 7           | 12          | best friend     |
| 44                     | 3     | W    | 2.93        | 3.22        | 6           | 7           | 72          | good friend     |
| 47                     | 3     | B    | 3.13        | 3.61        | 5           | 5           | 120         | friend          |
| 52                     | 3     | W    | 3.63        | 3.75        | 6           | 6           | 60          | friend          |
| 53                     | 3     | W    | 4.43        | 4.44        | 6           | 7           | 4           | roommate        |
| 57                     | 3     | W    | 4.00        | 4.33        | 6           | 6           | 3           | best friend     |
| 59                     | 3     | B    | 3.80        | 3.60        | 6           | 7           | 3           | best friend     |
| 60                     | 3     | W    | 4.14        | 4.72        | 7           | 7           | 60          | best friend     |
| 67                     | 3     | W    | 3.28        | 3.37        | 1           | 4           | 3           | roommate        |
| 70                     | 3     | W    | 3.52        | 3.67        | 6           | 6           | 6           | friend (M)      |
| 71                     | 3     | W    | 3.63        | 3.71        | 5           | 5           | 18          | close friend    |
| 75                     | 3     | W    | 3.86        | 4.34        | 6           | 6           | 3           | close friend    |
| 80                     | 3     | B    | 3.73        | 3.48        | 5           | 5           | 33          | roommate        |
| <b>Other PD means:</b> |       |      | <b>3.62</b> | <b>3.75</b> | <b>5.60</b> | <b>6.25</b> | <b>55.6</b> |                 |
| 3                      | 4     | W    | 3.80        | 3.69        | 7           | 7           | 24          | close friend    |
| 5                      | 4     | W    | 3.63        | 3.79        | 7           | 7           | 42          | boyfriend (M)   |
| 6                      | 4     | W    | 4.48        | 4.37        | 6           | 6           | 8           | best friend     |
| 8                      | 4     | W    | 4.10        | 4.57        | 7           | 7           | 24          | best friend     |
| 17                     | 4     | W    | 4.04        | 4.23        | 6           | 6           | 18          | good friend     |
| 27                     | 4     | W    | 3.75        | 3.48        | 5.5         | 5.5         | 12          | friend          |
| 33                     | 4     | W    | 3.66        | 4.07        | 5           | 6           | 12          | close friend    |
| 35                     | 4     | W    | 3.13        | 3.27        | 4           | 4           | 8           | roommate        |
| 37                     | 4     | W    | 3.66        | 3.88        | 7           | 7           | 42          | best friend (M) |
| 38                     | 4     | W    | 4.03        | 3.30        | 6           | 5           | 60          | close friend    |
| 43                     | 4     | W    | 4.39        | 4.33        | 7           | 7           | 96          | best friend     |
| 45                     | 4     | W    | 4.10        | 3.64        | 7           | 7           | 42          | boyfriend (M)   |
| 48                     | 4     | B    | 3.89        | 4.28        | 5           | 6           | 30          | friend          |
| 49                     | 4     | W    | 3.98        | 4.08        | 7           | 7           | 3           | v. close friend |
| 54                     | 4     | W    | 4.13        | 4.37        | 5           | 6           | 5           | good friend     |
| 56                     | 4     | W    | 2.76        | 3.35        | 4           | 4           | 5           | friend          |
| 58                     | 4     | W    | 4.04        | 4.21        | 6           | 7           | 18          | best friend     |
| 62                     | 4     | W    | 3.93        | 3.83        | 6           | 6           | 60          | v. close friend |
| 64                     | 4     | W    | 3.65        | 3.48        | 4           | 5           | 4           | friend          |
| 65                     | 4     | B    | 3.80        | 3.13        | 6           | 6           | 13          | friend          |
| <b>Normal means:</b>   |       |      | <b>3.85</b> | <b>3.87</b> | <b>5.88</b> | <b>6.08</b> | <b>26.3</b> |                 |

**Appendix E (cont.)****Table 4: Summary of Primary Data By Group**

| <b>Subject</b>            | <b>Group</b> | <b>BDI</b>  | <b>DACL 1</b> | <b>DACL 2</b> | <b>DACL 3</b> | <b>DACL 4</b> | <b>DACL 5</b> |
|---------------------------|--------------|-------------|---------------|---------------|---------------|---------------|---------------|
| 9                         | 1            | 1.5         | 7             | 3             | 6             | 14            | 12            |
| 10                        | 1            | 1           | 9             | 2             | 5             | 10            | 9             |
| 25                        | 1            | 7           | 0             | 3             | 2             | 17            | 5             |
| 41                        | 1            | 6           | 9             | 7             | 6             | 21            | 2             |
| 42                        | 1            | 7           | 2             | 1             | 1             | 8             | 3             |
| 46                        | 1            | 1           | 7             | 4             | 4             | 16            | 7             |
| 50                        | 1            | 3           | 8             | 12            | 8             | 17            | 9             |
| 51                        | 1            | 5           | 3             | 5             | 5             | 15            | 4             |
| 61                        | 1            | 9           | 10            | 5             | 6             | 9             | 4             |
| 63                        | 1            | 2           | 8             | 10            | 7             | 12            | 8             |
| 66                        | 1            | 12          | 12            | 1             | 3             | 18            | 8             |
| 68                        | 1            | 1           | 6             | 5             | 5             | 7             | 4             |
| 69                        | 1            | 14          | 8             | 4             | 5             | 14            | 4             |
| 72                        | 1            | 10          | 11            | 13            | 14            | 14            | 13            |
| 73                        | 1            | 1           | 7             | 3             | 7             | 12            | 6             |
| 74                        | 1            | 8           | 11            | 10            | 9             | 6             | 5             |
| 76                        | 1            | 0           | 0             | 0             | 1             | 22            | 2             |
| 77                        | 1            | 0           | 5             | 5             | 6             | 11            | 3             |
| 78                        | 1            | 1           | 3             | 5             | 3             | 9             | 4             |
| 79                        | 1            | 4           | 8             | 1             | 2             | 24            | 1             |
| <b>Dependent means:</b>   |              | <b>4.68</b> | <b>6.70</b>   | <b>4.95</b>   | <b>5.25</b>   | <b>13.80</b>  | <b>5.65</b>   |
| 2                         | 2            | 1           | 5             | 2             | 0             | 13            | 3             |
| 4                         | 2            | 3           | 3             | 6             | 6             | 10            | 4             |
| 11                        | 2            | 3           | 7             | 9             | 9             | 11            | 9             |
| 12                        | 2            | 4           | 7             | 7             | 9             | 8             | 6             |
| 13                        | 2            | 4           | 11            | 9             | 11            | 12            | 7             |
| 14                        | 2            | 1           | 9             | 3             | 5             | 11            | 1             |
| 15                        | 2            | 6           | 4             | 5             | 3             | 19            | 8             |
| 16                        | 2            | 0           | 4             | 2             | 11            | 21            | 6             |
| 18                        | 2            | 3           | 5             | 1             | 3             | 10            | 5             |
| 19                        | 2            | 0           | 1             | 4             | 3             | 9             | 7             |
| 21                        | 2            | 3           | 4             | 3             | 8             | 16            | 4             |
| 22                        | 2            | 0           | 0             | 0             | 1             | 0             | 0             |
| 23                        | 2            | 0           | 4             | 1             | 6             | 12            | 3             |
| 24                        | 2            | 1           | 3             | 6             | 8             | 12            | 6             |
| 29                        | 2            | 0           | 5             | 5             | 7             | 10            | 4             |
| 30                        | 2            | 3           | 4             | 2             | 5             | 16            | 6             |
| 32                        | 2            | 1           | 10            | 5             | 8             | 10            | 8             |
| 36                        | 2            | 2           | 6             | 4             | 4             | 14            | 3             |
| 40                        | 2            | 1           | 6             | 3             | 1             | 8             | 2             |
| 55                        | 2            | 4           | 2             | 3             | 9             | 22            | 4             |
| <b>Hist / Narc means:</b> |              | <b>2.00</b> | <b>5.00</b>   | <b>4.00</b>   | <b>5.85</b>   | <b>12.20</b>  | <b>4.80</b>   |

**Appendix E (cont.)****Table 4: (cont.)**

| <b>Subject</b>         | <b>Group</b> | <b>BDI</b>  | <b>DACL 1</b> | <b>DACL 2</b> | <b>DACL 3</b> | <b>DACL 4</b> | <b>DACL 5</b> |
|------------------------|--------------|-------------|---------------|---------------|---------------|---------------|---------------|
| 1                      | 3            | 8           | 4             | 8             | 11            | 7             | 7             |
| 7                      | 3            | 10          | 10            | 9             | 7             | 9             | 5             |
| 20                     | 3            | 2           | 4             | 1             | 3             | 14            | 3             |
| 26                     | 3            | 10          | 8             | 11            | 9             | 15            | 4             |
| 28                     | 3            | 7           | 13            | 2             | 6             | 16            | 1             |
| 31                     | 3            | 6           | 8             | 4             | 12            | 18            | 1             |
| 34                     | 3            | 2           | 6             | 4             | 1             | 1             | 3             |
| 39                     | 3            | 14          | 5             | 2             | 0             | 8             | 2             |
| 44                     | 3            | 6           | 4             | 5             | 7             | 13            | 3             |
| 47                     | 3            | 4           | 12            | 4             | 9             | 4             | 1             |
| 52                     | 3            | 4           | 6             | 3             | 1             | 4             | 2             |
| 53                     | 3            | 2           | 6             | 4             | 3             | 8             | 5             |
| 57                     | 3            | 4           | 8             | 4             | 4             | 15            | 6             |
| 59                     | 3            | 12          | 11            | 6             | 7             | 12            | 4             |
| 60                     | 3            | 9           | 8             | 1             | 1             | 6             | 4             |
| 67                     | 3            | 13          | 11            | 10            | 9             | 11            | 9             |
| 70                     | 3            | 10          | 6             | 6             | 7             | 16            | 5             |
| 71                     | 3            | 12          | 10            | 10            | 6             | 7             | 8             |
| 75                     | 3            | 8           | 7             | 6             | 7             | 25            | 6             |
| 80                     | 3            | 12          | 10            | 4             | 3             | 1             | 4             |
| <b>Other PD means:</b> |              | <b>7.75</b> | <b>7.85</b>   | <b>5.20</b>   | <b>5.65</b>   | <b>10.50</b>  | <b>4.15</b>   |
| 3                      | 4            | 2           | 6             | 8             | 5             | 10            | 5             |
| 5                      | 4            | 5           | 9             | 7             | 8             | 15            | 5             |
| 6                      | 4            | 1           | 8             | 7             | 8             | 8             | 7             |
| 8                      | 4            | 3           | 4             | 1             | 2             | 2             | 2             |
| 17                     | 4            | 6           | 8             | 8             | 6             | 15            | 5             |
| 27                     | 4            | 0           | 0             | 2             | 1             | 5             | 3             |
| 33                     | 4            | 9           | 7             | 7             | 9             | 8             | 7             |
| 35                     | 4            | 4           | 3             | 5             | 3             | 4             | 3             |
| 37                     | 4            | 1           | 6             | 6             | 6             | 17            | 7             |
| 38                     | 4            | 0           | 1             | 0             | 0             | 3             | 4             |
| 43                     | 4            | 0           | 3             | 6             | 4             | 6             | 4             |
| 45                     | 4            | 9           | 6             | 1             | 4             | 11            | 4             |
| 48                     | 4            | 0           | 9             | 4             | 7             | 8             | 7             |
| 49                     | 4            | 0           | 7             | 5             | 7             | 19            | 5             |
| 54                     | 4            | 4           | 8             | 4             | 0             | 11            | 2             |
| 56                     | 4            | 4           | 5             | 4             | 5             | 14            | 6             |
| 58                     | 4            | 7           | 10            | 4             | 9             | 8             | 5             |
| 62                     | 4            | 8           | 10            | 3             | 4             | 14            | 4             |
| 64                     | 4            | 4           | 11            | 7             | 8             | 8             | 9             |
| 65                     | 4            | 3           | 2             | 4             | 3             | 5             | 5             |
| <b>Normal means:</b>   |              | <b>3.50</b> | <b>6.15</b>   | <b>4.65</b>   | <b>4.95</b>   | <b>9.55</b>   | <b>4.95</b>   |

**Appendix E (cont.)****Table 5: Summary of Post-Manipulation Ancillary Data by Group**

| Subject                   | Group | SI          | SI2         | Accuracy    | Feedback Forms |             |             |
|---------------------------|-------|-------------|-------------|-------------|----------------|-------------|-------------|
|                           |       |             |             |             | Typical        | Self        | Other       |
| 9                         | 1     | 0           | 1           | 3.5         | 2              | 1           | 1           |
| 10                        | 1     | 0           | 0           | 2           | 3              | 1.86        | 2           |
| 25                        | 1     | 1           | 2           | 1           | 1              | 1           | 1           |
| 41                        | 1     | 1           | 1           | 1           | 1              | 1           | 1           |
| 42                        | 1     | 0           | 0           | 6           | 6              | 1           | 1           |
| 46                        | 1     | 1           | 0           | 1           | 1              | 1           | 1           |
| 50                        | 1     | 0           | 0           | 1           | 1              | 1           | 1           |
| 51                        | 1     | 0           | 1           | 3           | 4              | 1.14        | 1           |
| 61                        | 1     | 0           | 0           | 2           | 2              | 1.43        | 1.14        |
| 63                        | 1     | 0           | 0           | 4           | 4              | 1.29        | 1.14        |
| 66                        | 1     | 1           | 2           | 2           | 2              | 1           | 1           |
| 68                        | 1     | 0           | 0           | 2           | 1              | 1           | 1           |
| 69                        | 1     | 0           | 0           | 3           | 3              | 1           | 1           |
| 72                        | 1     | 0           | 1           | 5           | 4              | 1.29        | 1           |
| 73                        | 1     | 0           | 0           | 2           | 2              | 1.14        | 1           |
| 74                        | 1     | 0           | 1           | 1           | 1              | 1.29        | 1           |
| 76                        | 1     | 1           | 0           | 1           | 1              | 1           | 1           |
| 77                        | 1     | 0           | 0           | 2           | 1              | 1.29        | 1           |
| 78                        | 1     | 0           | 0           | 3           | 3              | 1.14        | 1           |
| 79                        | 1     | 0           | 0           | 1           | 1              | 1           | 1           |
| <b>Dependent means:</b>   |       | <b>0.25</b> | <b>0.45</b> | <b>2.33</b> | <b>2.20</b>    | <b>1.14</b> | <b>1.07</b> |
| 2                         | 2     | 0           | 0           | 2           | 2              | 1           | 1           |
| 4                         | 2     | 0           | 0           | 2           | 2              | 1           | 1.14        |
| 11                        | 2     | 0           | 0           | 4           | 4              | 1           | 1           |
| 12                        | 2     | 1           | 1           | 1           | 1              | 1.14        | 1.14        |
| 13                        | 2     | 0           | 0           | 6           | 4              | 1           | 1           |
| 14                        | 2     | 0           | 1           | 3           | 2              | 1.14        | 1           |
| 15                        | 2     | 0           | 0           | 2           | 3              | 1.43        | 1.57        |
| 16                        | 2     | 0           | 0           | 1           | 3              | 1           | 1           |
| 18                        | 2     | 1           | 0           | 1           | 1              | 1           | 1           |
| 19                        | 2     | 0           | 0           | 4           | 2              | 1           | 1           |
| 21                        | 2     | 0           | 0           | 1           | 6              | 1           | 1           |
| 22                        | 2     | 0           | 0           | 1           | 1              | 1           | 1           |
| 23                        | 2     | 0           | 0           | 7           | 1              | 1.14        | 1           |
| 24                        | 2     | 0           | 0           | 2           | 4              | 1           | 1.14        |
| 29                        | 2     | 0           | 0           | 2           | 2              | 1           | 1.21        |
| 30                        | 2     | 0           | 1           | 1           | 1              | 1.14        | 1.14        |
| 32                        | 2     | 0           | 0           | 5.5         | 4              | 1.21        | 1.14        |
| 36                        | 2     | 0           | 0           | 2           | 1              | 1           | 1           |
| 40                        | 2     | 0           | 0           | 2           | 2              | 1.14        | 1.14        |
| 55                        | 2     | 0           | 0           | 1           | 1              | 1.29        | 1           |
| <b>Hist / Narc means:</b> |       | <b>0.1</b>  | <b>0.15</b> | <b>2.53</b> | <b>2.35</b>    | <b>1.08</b> | <b>1.09</b> |

**Appendix E (cont.)****Table 5: (cont.)**

| Subject                | Group | SI          | SI2         | Accuracy    | Typical     | Feedback Forms |             |
|------------------------|-------|-------------|-------------|-------------|-------------|----------------|-------------|
|                        |       |             |             |             |             | Self           | Other       |
| 1                      | 3     | 0           | 0           | 4           | 4           | 1              | 1           |
| 7                      | 3     | 2           | 2           | 2           | 1           | 1              | 1           |
| 20                     | 3     | 0           | 0           | 2           | 1           | 1.07           | 1.07        |
| 26                     | 3     | 0           | 0           | 5           | 3           | 2.57           | 1.29        |
| 28                     | 3     | 0           | 0           | 1           | 6           | 1              | 1           |
| 31                     | 3     | 0           | 0           | 2           | 4           | 1.29           | 1.71        |
| 34                     | 3     | 0           | 0           | 6           | 7           | 1              | 1           |
| 39                     | 3     | 0           | 0           | 3           | 2           | 1.57           | 1           |
| 44                     | 3     | 0           | 0           | 2           | 2           | 1              | 1           |
| 47                     | 3     | 0           | 0           | 1           | 1           | 1              | 1           |
| 52                     | 3     | 0           | 0           | 2           | 2           | 1.14           | 1.28        |
| 53                     | 3     | 2           | 2           | 2           | 2           | 1              | 1           |
| 57                     | 3     | 0           | 0           | 4           | 2           | 1              | 1           |
| 59                     | 3     | 0           | 1           | 1           | 1           | 1.14           | 1.29        |
| 60                     | 3     | 0           | 0           | 3           | 2           | 1.29           | 1           |
| 67                     | 3     | 0           | 0           | 6           | 4           | 1.29           | 1           |
| 70                     | 3     | 0           | 0           | 5           | 7           | 1.57           | 1.14        |
| 71                     | 3     | 0           | 0           | 3           | 6           | 1              | 1           |
| 75                     | 3     | 1           | 0           | 2           | 2           | 1.14           | 1           |
| 80                     | 3     | 0           | 0           | 3           | 7           | 1              | 1           |
| <b>Other PD means:</b> |       | <b>0.25</b> | <b>0.25</b> | <b>2.95</b> | <b>3.30</b> | <b>1.20</b>    | <b>1.09</b> |
| 3                      | 4     | 2           | 2           | 3           | 1           | 1              | 1           |
| 5                      | 4     | 1           | 1           | 2           | 2           | 1.21           | 1.29        |
| 6                      | 4     | 0           | 0           | 5           | 4           | 1              | 1           |
| 8                      | 4     | 2           | 2           | 1           | 1           | 1              | 1           |
| 17                     | 4     | 0           | 0           | 3           | 4           | 1.29           | 1           |
| 27                     | 4     | 2           | 2           | 1           | 1           | 1              | 1           |
| 33                     | 4     | 0           | 0           | 3           | 6           | 1.14           | 1.14        |
| 35                     | 4     | 0           | 0           | 4.5         | 5.5         | 1.36           | 1.43        |
| 37                     | 4     | 0           | 0           | 1           | 1           | 1.43           | 1.14        |
| 38                     | 4     | 0           | 0           | 2           | 2           | 1              | 1           |
| 43                     | 4     | 0           | 1           | 5           | 3           | 1.14           | 1           |
| 45                     | 4     | 0           | 0           | 2           | 2           | 1              | 1           |
| 48                     | 4     | 0           | 1           | 3           | 2           | 1.21           | 1.14        |
| 49                     | 4     | 0           | 0           | 3           | 2           | 1              | 1           |
| 54                     | 4     | 0           | 0           | 3           | 2           | 1.36           | 1           |
| 56                     | 4     | 0           | 0           | 2           | 4           | 1.14           | 1.29        |
| 58                     | 4     | 0           | 0           | 2           | 2           | 4.14           | 1.29        |
| 62                     | 4     | 0           | 0           | 4           | 6           | 1.71           | 1.57        |
| 64                     | 4     | 0           | 0           | 3           | 4           | 1              | 1           |
| 65                     | 4     | 0           | 0           | 3           | 3           | 1.14           | 1           |
| <b>Normal means:</b>   |       | <b>0.35</b> | <b>0.45</b> | <b>2.78</b> | <b>2.88</b> | <b>1.31</b>    | <b>1.11</b> |



**Appendix E (cont.)****Table 6: Dependent Variable - BDI**

| Source | DF | Type III SS | Mean Square | F Value | Pr > F |
|--------|----|-------------|-------------|---------|--------|
| GROUP  | 3  | 356.8344    | 118.9448    | 10.44   | 0.0001 |
| Error  | 76 | 865.8875    | 11.3933     |         |        |

**Table 7: Repeated Measures Analysis of Variance**  
**Least Squares Means**

| Group     | DACL1<br>LSMEAN | DACL2<br>LSMEAN | DACL3<br>LSMEAN | DACL4<br>LSMEAN | DACL5<br>LSMEAN |
|-----------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Dependent | 6.64            | 4.91            | 5.22            | 13.77           | 5.63            |
| Hist/Narc | 5.81            | 4.52            | 6.29            | 12.60           | 5.11            |
| Other PD  | 6.79            | 4.51            | 5.08            | 9.97            | 3.74            |
| Normal    | 6.47            | 4.86            | 5.12            | 9.71            | 5.07            |

**Table 8: Analysis of Covariance - DACL 1**

| Source | DF | Type I SS   | Mean Square | F Value | Pr > F |
|--------|----|-------------|-------------|---------|--------|
| GROUP  | 3  | 84.2500     | 28.0833     | 3.36    | 0.0232 |
| BDI    | 1  | 91.7108     | 91.7108     | 10.96   | 0.0014 |
| Source | DF | Type III SS | Mean Square | F Value | Pr > F |
| GROUP  | 3  | 8.7696      | 2.9232      | 0.35    | 0.7897 |
| BDI    | 1  | 91.7108     | 91.7108     | 10.96   | 0.0014 |
| Error  | 75 | 803.5500    | 8.3678      |         |        |

**Appendix E (cont.)****Table 9: Analysis of Covariance - DACL 2**

| Source | DF | Type I SS   | Mean Square | F Value | Pr > F |
|--------|----|-------------|-------------|---------|--------|
| GROUP  | 3  | 16.1000     | 5.3667      | 0.64    | 0.5898 |
| BDI    | 1  | 38.7499     | 38.7499     | 4.64    | 0.0344 |
| Source | DF | Type III SS | Mean Square | F Value | Pr > F |
| GROUP  | 3  | 2.6864      | 0.8955      | 0.11    | 0.9556 |
| BDI    | 1  | 38.7499     | 38.7499     | 4.64    | 0.0344 |
| Error  | 75 | 625.9501    | 8.3460      |         |        |

**Table 10: Analysis of Covariance - DACL 3**

| Source | DF | Type I SS   | Mean Square | F Value | Pr > F |
|--------|----|-------------|-------------|---------|--------|
| GROUP  | 3  | 9.7500      | 3.2500      | 0.33    | 0.8057 |
| BDI    | 1  | 26.6386     | 26.6386     | 2.68    | 0.1057 |
| Source | DF | Type III SS | Mean Square | F Value | Pr > F |
| GROUP  | 3  | 16.9579     | 5.6526      | 0.57    | 0.6372 |
| BDI    | 1  | 26.6386     | 26.6386     | 2.68    | 0.1057 |
| Error  | 75 | 745.1614    | 9.9355      |         |        |

**Table 11: Analysis of Covariance - DACL 4**

| Source | DF | Type I SS   | Mean Square | F Value | Pr > F |
|--------|----|-------------|-------------|---------|--------|
| GROUP  | 3  | 211.6375    | 70.5458     | 2.53    | 0.0632 |
| BDI    | 1  | 22.8627     | 22.8627     | 0.82    | 0.3677 |
| Source | DF | Type III SS | Mean Square | F Value | Pr > F |
| GROUP  | 3  | 228.2000    | 76.0667     | 2.73    | 0.0496 |
| BDI    | 1  | 22.8627     | 22.8627     | 0.82    | 0.3677 |
| Error  | 75 | 2087.4873   | 27.8332     |         |        |

**Appendix E (cont.)**

**Table 12: Analysis of Covariance - DA CL4**  
Least Squares Means: T-tests of Pairwise Differences

| Group     | DA CL4<br>LSMEAN |   | 1              | 2              | 3              | 4             |
|-----------|------------------|---|----------------|----------------|----------------|---------------|
| Dependent | 13.79            | 1 | -              | 0.671<br>0.50  | 2.162<br>0.03  | 2.414<br>0.02 |
| Hist/Narc | 12.60            | 2 | -0.671<br>0.50 | -              | 1.343<br>0.18  | 1.712<br>0.09 |
| Other PD  | 9.97             | 3 | -2.163<br>0.03 | -1.343<br>0.18 | -              | 0.141<br>0.89 |
| Normal    | 9.71             | 4 | -2.414<br>0.02 | -1.712<br>0.09 | -0.141<br>0.89 | -             |

**Table 13: Analysis of Covariance - DA CL 5**

| Source | DF | Type I SS   | Mean Square | F Value | Pr > F |
|--------|----|-------------|-------------|---------|--------|
| GROUP  | 3  | 22.7375     | 7.5792      | 1.22    | 0.3080 |
| BDI    | 1  | 13.7149     | 13.7149     | 2.21    | 0.1414 |
| Source | DF | Type III SS | Mean Square | F Value | Pr > F |
| GROUP  | 3  | 32.7995     | 10.9332     | 1.76    | 0.1618 |
| BDI    | 1  | 13.7149     | 13.7149     | 2.21    | 0.1414 |
| Error  | 75 | 465.5351    | 6.2071      |         |        |

**Table 14: Repeated Measures Analysis of Variance**  
Tests of Hypotheses for Between Subjects Effects

| Source         | DF  | Type III SS | Mean Square | F Value | Pr > F    |
|----------------|-----|-------------|-------------|---------|-----------|
| GROUP          | 3   | 86.3218     | 28.7739     | 2.37    | > 0.100   |
| BDI            | 1   | 173.4326    | 173.4326    | 14.29   | < 0.010 * |
| Error (Pooled) | 375 | 4551.7125   | 12.1379     |         |           |

**Appendix E (cont.)****Table 15: Repeated Measures Analysis of Variance**  
**Tests of Hypotheses for Within Subjects Effects**

| Source                   | DF  | Type III SS | Mean Square | F Value | Pr > F    |
|--------------------------|-----|-------------|-------------|---------|-----------|
| TIME                     | 4   | 930.2710    | 232.5678    | 19.16   | < 0.010 * |
| TIME*GROUP               | 12  | 203.0916    | 16.9243     | 1.39    | > 0.100   |
| TIME*BDI                 | 4   | 20.2443     | 5.0611      | 0.42    | > 0.100   |
| Error (TIME)<br>(Pooled) | 375 | 4551.7125   | 12.1379     |         |           |

**Table 16: Repeated Measures Analysis of Variance**  
**Analysis of Variance of Contrast Variables****Contrast Variable: TIME 1 to 2**

| Source         | DF  | Type III SS | Mean Square | F Value | Pr > F  |
|----------------|-----|-------------|-------------|---------|---------|
| MEAN           | 1   | 41.3318     | 41.3318     | 3.41    | < 0.100 |
| GROUP          | 3   | 7.3043      | 2.4348      | 0.20    | > 0.100 |
| BDI            | 1   | 11.2334     | 11.2334     | 0.93    | > 0.100 |
| Error (Pooled) | 375 | 4551.7125   | 12.1379     |         |         |

**Contrast Variable: TIME 2 to 3**

| Source         | DF  | Type III SS | Mean Square | F Value | Pr > F  |
|----------------|-----|-------------|-------------|---------|---------|
| MEAN           | 1   | 22.0427     | 22.0427     | 1.82    | > 0.100 |
| GROUP          | 3   | 27.2606     | 9.0869      | 0.75    | > 0.100 |
| BDI            | 1   | 1.1314      | 1.1314      | 0.09    | > 0.100 |
| Error (Pooled) | 375 | 4551.7125   | 12.1379     |         |         |

**Appendix E (cont.)****Table 16 (cont.)****Contrast Variable: TIME 3 to 4**

| Source         | DF  | Type III SS | Mean Square | F Value | Pr > F    |
|----------------|-----|-------------|-------------|---------|-----------|
| MEAN           | 1   | 1058.0861   | 1058.0861   | 87.17   | < 0.010 * |
| GROUP          | 3   | 194.0793    | 64.6931     | 5.33    | < 0.010 * |
| BDI            | 1   | 0.1442      | 0.1442      | 0.01    | > 0.100   |
| Error (Pooled) | 375 | 4551.7125   | 12.1379     |         |           |

**Contrast Variable: TIME 4 to 5**

| Source         | DF  | Type III SS | Mean Square | F Value | Pr > F    |
|----------------|-----|-------------|-------------|---------|-----------|
| MEAN           | 1   | 1169.5109   | 1169.5109   | 96.35   | < 0.010 * |
| GROUP          | 3   | 142.8538    | 47.6179     | 3.92    | < 0.025 * |
| BDI            | 1   | 1.1624      | 1.1624      | 0.10    | > 0.100   |
| Error (Pooled) | 375 | 4551.7125   | 12.1379     |         |           |

**Table 17: Difference Scores: TIME 3 to 4**  
**Least Squares Means: T-tests of Pairwise Differences**

| Group     | <u>TIME 4 - TIME 3</u> |   |                  |                |                |                |
|-----------|------------------------|---|------------------|----------------|----------------|----------------|
|           | <u>LSMEAN</u>          |   | 1                | 2              | 3              | 4              |
| Dependent | 8.55                   | 1 | -                | 1.249<br>0.22  | 2.022<br>0.05* | 2.288<br>0.02* |
| Hist/Narc | 6.32                   | 2 | -1.249<br>0.22   | -              | 0.706<br>0.48  | 0.994<br>0.32  |
| Other PD  | 4.89                   | 3 | -2.022<br>0.05 * | -0.706<br>0.48 | -              | 0.161<br>0.87  |
| Normal    | 4.59                   | 4 | -2.288<br>0.02 * | -0.994<br>0.32 | -0.161<br>0.87 | -              |

**Appendix E (cont.)****Table 18: Difference Scores: TIME 3 to 4**  
**Analysis of Covariance: By Groups Separately****a. Group 1**

| Source | DF | Type III SS | Mean Square | F Value | Pr > F |
|--------|----|-------------|-------------|---------|--------|
| MEAN   | 1  | 704.6886    | 704.6886    | 15.61   | 0.0009 |
| BDI    | 1  | 2.5233      | 2.5233      | 0.06    | 0.8158 |
| Error  | 18 | 812.4267    | 45.1348     |         |        |

**b. Group 2**

| Source | DF | Type III SS | Mean Square | F Value | Pr > F |
|--------|----|-------------|-------------|---------|--------|
| MEAN   | 1  | 201.9652    | 201.9652    | 9.09    | 0.0075 |
| BDI    | 1  | 30.4138     | 30.4138     | 1.37    | 0.2574 |
| Error  | 18 | 400.1362    | 22.2298     |         |        |

**c. Group 3**

| Source | DF | Type III SS | Mean Square | F Value | Pr > F |
|--------|----|-------------|-------------|---------|--------|
| MEAN   | 1  | 121.8100    | 121.8100    | 3.76    | 0.0684 |
| BDI    | 1  | 2.8926      | 2.8926      | 0.09    | 0.7686 |
| Error  | 18 | 583.6574    | 32.4254     |         |        |

**d. Group 4**

| Source | DF | Type III SS | Mean Square | F Value | Pr > F |
|--------|----|-------------|-------------|---------|--------|
| MEAN   | 1  | 171.1486    | 171.1486    | 8.01    | 0.0111 |
| BDI    | 1  | 0.1397      | 0.1397      | 0.01    | 0.9365 |
| Error  | 18 | 384.6603    | 21.3700     |         |        |

**Appendix E (cont.)**

**Table 19: Difference Scores: TIME 4 to 5**  
Least Squares Means: T-tests of Pairwise Differences

| Group     | <u>TIME 5 - TIME 4</u> |   |               |                |                |                |
|-----------|------------------------|---|---------------|----------------|----------------|----------------|
|           | <u>LSMEAN</u>          |   | 1             | 2              | 3              | 4              |
| Dependent | -8.14                  | 1 | -             | -0.351<br>0.73 | -1.016<br>0.31 | -1.947<br>0.06 |
| Hist/Narc | -7.49                  | 2 | 0.351<br>0.73 | -              | -0.600<br>0.55 | -1.577<br>0.12 |
| Other PD  | -6.23                  | 3 | 1.016<br>0.31 | 0.600<br>0.55  | -              | -0.811<br>0.42 |
| Normal    | -4.64                  | 4 | 1.947<br>0.06 | 1.577<br>0.12  | 0.811<br>0.42  | -              |

**Table 20: Perceived Accuracy Data**  
Analysis of Variance

| Source      | DF | Type III SS | Mean Square | F Value | Pr > F |
|-------------|----|-------------|-------------|---------|--------|
| GROUP       | 3  | 4.5144      | 1.5115      | 0.65    | 0.5862 |
| Error       | 76 | 177.0625    | 2.3298      |         |        |
| Corr. Total | 79 | 181.5967    |             |         |        |

**Table 21: Perceived Typicality Data**  
Analysis of Variance

| Source      | DF | Type III SS | Mean Square | F Value | Pr > F |
|-------------|----|-------------|-------------|---------|--------|
| GROUP       | 3  | 15.2344     | 5.0781      | 1.76    | 0.1614 |
| Error       | 76 | 218.8875    | 2.8801      |         |        |
| Corr. Total | 79 | 234.1219    |             |         |        |

**Appendix E (cont.)****Table 22: Suspicion Index Data - Experimenter**  
**Analysis of Variance**

| Source      | DF | Type III SS | Mean Square | F Value | Pr > F |
|-------------|----|-------------|-------------|---------|--------|
| GROUP       | 3  | 0.6375      | 0.2125      | 0.68    | 0.5687 |
| Error       | 76 | 23.8500     | 0.3138      |         |        |
| Corr. Total | 79 | 24.4875     |             |         |        |

**Table 23: Suspicion Index Data - Blind Rater**  
**Analysis of Variance**

| Source      | DF | Type III SS | Mean Square | F Value | Pr > F |
|-------------|----|-------------|-------------|---------|--------|
| GROUP       | 3  | 1.3500      | 0.4500      | 1.13    | 0.3414 |
| Error       | 76 | 30.2000     | 0.3974      |         |        |
| Corr. Total | 79 | 31.5500     |             |         |        |

**Table 24: Feedback Ratings - Self**  
**Analysis of Variance**

| Source      | DF | Type III SS | Mean Square | F Value | Pr > F |
|-------------|----|-------------|-------------|---------|--------|
| GROUP       | 3  | 0.5858      | 0.1953      | 1.15    | 0.3337 |
| Error       | 76 | 12.8814     | 0.1695      |         |        |
| Corr. Total | 79 | 13.4672     |             |         |        |

**Table 25: Feedback Ratings - Other**  
**Analysis of Variance**

| Source      | DF | Type III SS | Mean Square | F Value | Pr > F |
|-------------|----|-------------|-------------|---------|--------|
| GROUP       | 3  | 0.0192      | 0.0064      | 0.19    | 0.9041 |
| Error       | 76 | 2.5837      | 0.0340      |         |        |
| Corr. Total | 79 | 2.6029      |             |         |        |



**Appendix E (cont.)****Table 26: Dyadic Adjustment Scale - Participant**  
**Analysis of Variance**

| Source      | DF | Type III SS | Mean Square | F Value | Pr > F |
|-------------|----|-------------|-------------|---------|--------|
| GROUP       | 3  | 2.0387      | 0.6796      | 4.24    | 0.0080 |
| Error       | 76 | 12.1872     | 0.1604      |         |        |
| Corr. Total | 79 | 14.2259     |             |         |        |

**Table 27: Dyadic Adjustment Scale - Significant Other**  
**Analysis of Variance**

| Source      | DF | Type III SS | Mean Square | F Value | Pr > F |
|-------------|----|-------------|-------------|---------|--------|
| GROUP       | 3  | 0.1710      | 0.0570      | 0.30    | 0.8273 |
| Error       | 76 | 14.5731     | 0.1918      |         |        |
| Corr. Total | 79 | 14.7440     |             |         |        |

**Table 28: Relationship Duration Data**  
**Analysis of Variance**

| Source      | DF | Type III SS | Mean Square | F Value | Pr > F |
|-------------|----|-------------|-------------|---------|--------|
| GROUP       | 3  | 14698.6500  | 4899.5500   | 2.16    | 0.1000 |
| Error       | 76 | 172620.9000 | 2271.3276   |         |        |
| Corr. Total | 79 | 187319.5500 |             |         |        |

**Table 29: Importance Data**  
**Analysis of Variance**

| Source      | DF | Type III SS | Mean Square | F Value | Pr > F |
|-------------|----|-------------|-------------|---------|--------|
| GROUP       | 3  | 4.3344      | 1.4448      | 2.00    | 0.1218 |
| Error       | 76 | 55.0375     | 0.7242      |         |        |
| Corr. Total | 79 | 59.3719     |             |         |        |

**Appendix E (cont.)****Table 30: Closeness Data**  
**Analysis of Variance**

| Source      | DF | Type III SS | Mean Square | F Value | Pr > F |
|-------------|----|-------------|-------------|---------|--------|
| GROUP       | 3  | 5.2094      | 1.7365      | 1.16    | 0.3321 |
| Error       | 76 | 114.1375    | 1.5018      |         |        |
| Corr. Total | 79 | 119.3469    |             |         |        |

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**APPENDIX J****Feedback Form**

Please rate the individual with whom you just interacted on the following dimensions. Please fill out the form as honestly and accurately as possible. Please circle anywhere on the line which you feel adequately expresses how you felt about the individual with whom you interacted.

Answer these questions based on your experience with the individual.

1 = Strongly Agree; 2 = Agree Somewhat; 3 = No Opinion;  
4 = Disagree Somewhat; 5 = Strongly Disagree

- |  |                           |
|--|---------------------------|
| I ENJOYED WORKING WITH THIS PERSON:  | 1-----2-----3-----4-----5 |
| THIS PERSON WAS HELPFUL IN OUR<br>COMPLETING THE ASSIGNED TASK:                | 1-----2-----3-----4-----5 |
| THIS PERSON WAS ABLE TO EXPRESS<br>HERSELF CLEARLY AND SUCCINCTLY:             | 1-----2-----3-----4-----5 |
| THIS PERSON CONTRIBUTED ORIGINAL<br>IDEAS WHILE WORKING ON THE TASK:           | 1-----2-----3-----4-----5 |
| THIS PERSON'S STYLE OF WORKING<br>COOPERATIVELY WAS HELPFUL:                   | 1-----2-----3-----4-----5 |
| THIS PERSON'S STYLE WAS PLEASANT<br>THROUGHOUT THE INTERACTION:                | 1-----2-----3-----4-----5 |
| I WOULD CHOOSE TO WORK WITH THIS<br>PERSON IN THE FUTURE ON A<br>SIMILAR TASK: | 1-----2-----3-----4-----5 |

**APPENDIX K****Feedback Survey**

**How accurate did you feel the feedback was relative to your performance?**

|                                |          |          |                                |          |          |                          |
|--------------------------------|----------|----------|--------------------------------|----------|----------|--------------------------|
| <b>1</b>                       | <b>2</b> | <b>3</b> | <b>4</b>                       | <b>5</b> | <b>6</b> | <b>7</b>                 |
| <b>Not accurate<br/>at all</b> |          |          | <b>Moderately<br/>Accurate</b> |          |          | <b>Very<br/>Accurate</b> |

**How typical did you feel the feedback was compared to feedback you get from the other person in different situations?**

|                               |          |          |                               |          |          |                         |
|-------------------------------|----------|----------|-------------------------------|----------|----------|-------------------------|
| <b>1</b>                      | <b>2</b> | <b>3</b> | <b>4</b>                      | <b>5</b> | <b>6</b> | <b>7</b>                |
| <b>Not typical<br/>at all</b> |          |          | <b>Moderately<br/>Typical</b> |          |          | <b>Very<br/>Typical</b> |

## APPENDIX L

### Suspicion Index Data

Participant

5. - I felt mad at him, especially at first. I 75% wondered if he filled it out.
6. - I guess it was what I expected ...
  - When I first seen it, I kinda wondered, but I guess it makes more sense. Some of it sounded like she might have said it.
7. - I didn't think it was her - we get into heavy discussions and it didn't seem to jive with the way we interact.
8. - I don't think it's hers, 'cause I know about experiments. It was a positive interaction, so...
  - I know how not to fall for experiments from taking class ...
9. - I thought it would be a little better, I don't know.
10. - Well, I was the one who made all 3 things, and he just wrote. He wasn't brave enough to put his own opinion. He put "would you like to work again?" and he put "no opinion". That hurt.
11. - I don't know, it's a kind of situation where it's not serious - it's not a serious situation , so I'm not going to have much feelings about it. It's interesting to see how someone else looks at you.
12. - Well, to me it just didn't seem typical or make sense. I didn't stop or think about it that much. It seemed interesting.
  - I kinda thought that might be ... That was my theory.
13. - I thought it was pretty accurate. I don't speak really tersely - don't get to the point. I was surprised that ours weren't as close - our ratings of each other were different.
  - I would have been more upset if I had thought I was a good speaker.
14. - I don't know, I felt like she rated me lower than I thought she would. She put a lot of "no opinions". I was just kind of surprised.
  - I was just trying to think back over the interaction, decide what happened, because we usually agree.
15. - Well, I got a good reaction from him. He was real responsive. He kind of ... I thought a guitar was kind of unnecessary! I was kind of pleased.
  - At first, I did think he filled it out. It made me kinda upset and mad.

**APPENDIX L (cont.)**

16. - I was surprised, I thought he would give me a better rating than that. Upsetting ...
17. - I don't know if we were thinking on the same wavelengths. Usually I think of something positive instead of something negative. (?) Hers was something unbiased, I guess.
18. - When I first looked at it I was surprised, then after I knew she didn't do it. It was funny when I was filling out the sheet I was laughing, so I filled it out how I felt when I first saw the feedback, and then when I realized...
19. - I think that I'm easy to work with and lots of people feel that I am. I was surprised - because I guess I thought he would think I was a little easier to work with.
- I was surprised because we usually share things with each other. Now I feel better.
20. - She hurt my feelings - she put "no opinion" on it! She either liked it or she didn't, but don't put "no opinion". She didn't think it went as well as I did, I guess.
- I feel a little better. I didn't know what to say to her.
21. - From K.? I don't know, I don't think it was very true. I think I put more than she did. I almost put in too much, so I don't think it was accurate. I thought it was kind of typical, I think she underestimates me a lot.
- I really didn't think she would put that down, but she underestimates, so I just figured ...
22. - It didn't seem like what she would say. It's not the answers I would expect her to have given. It doesn't really bother me, if that's the way she feels. I don't care - it's not like it's going to crush me or anything.
- I figured maybe you told her to fill it out that way.
23. - I was mad. I thought she did really well. I don't know if she meant it or not, but I was disappointed.
- I think it's funny, I feel relieved.
24. - I was sort of shocked - what she put - I would have thought she would have put something different. Mostly shocked, and disappointed. I would say it was sort of typical, but ... I don't know.
25. - J. wouldn't say that about me, and if she did it made me upset. J. and I are best friends and never say anything behind our backs. At first I felt kinda upset, and then I thought that she wouldn't have said that about me. If J. said that about me, that would have made me feel real bad.
26. - Well, the question about completing, she usually tells me what she thinks. Some of the answers were nondescript because they were in numbers. If we were talking, we usually are in agreement. We have been friends for a long time, you



**APPENDIX L (cont.)**

usually know how your friend feels, can tell when talking from their expression, not "4" or "2".

- I thought so, but wasn't real sure. Now that you said it ... I feel better now.
27. -
28. - I really didn't like the feedback because, under the circumstances, we didn't have the chance to evaluation the right way. I don't think she thought of the criticism today. Her response was between moderate and very typical.
29. - Well, I didn't agree with the feedback. The ratings I got were lower than I would give myself. (Typical?) The feedback he gave me was more negative than I'm accustomed.
- I'm relieved to hear that.
30. - I was surprised because I said more than she did. I was the one writing. I was in control of the situation and for her to write something like that ...
- I kinda figured that, because if she knew I was going to get it, I can't imagine she would write that. (?) I was in the middle (reacted as if from her?) Yes.
31. - It was kind of irritating. I thought I did most of the work, and she didn't give any suggestions. I felt like I gave her a chance to say stuff ... Like the survey, I thought it was kinda typical, the way she turns around and criticizes me.
- It's kind of a weight off my mind. I was wondering how to interact with her later.
32. - Umm... I don't know. It surprised me a little bit - she had no opinion on some. It was ... normally we have to do more, we normally disagree some, so it was accurate.
- I thought it was kind of strange, "no opinion" was not typical. (responded as if from her?) Yes, but I was surprised, not like on the mood form.
33. - It was fine, I would expect it of her because she tends to be more critical than me. The project was fun.
- See, I thought it didn't look like she had done it, but I know she was feeling down today, so I'm glad that wasn't what she said.
34. - I don't know. I guess I had to react to it, but I don't know. I thought it was typical. It didn't hurt my feelings but it didn't boost my feelings.
- It's weird because that was what she would write down there.

**APPENDIX L (cont.)**

35. - Well, I feel that, because of living with her, she doesn't give her own feelings, so when we work together I try to let her do more. So I did that, so the feedback was pretty accurate. It was typical. I usually don't get any feedback, so this was different, but ... Most people would look at what she said and say "gosh darn", but I didn't feel downhearted or upset.
- To me it seemed it could be accurate.
36. - Well, it wasn't what I expected, she responded different, I guess. It doesn't seem like her. (?) I thought she would say "Yes, I enjoyed working ...". If we were together here answering the questions, we'd have answered them different.
- I kinda wondered, but then I guess I believed it was from her.
37. - I didn't like it. I thought it went well. I thought we interacted fine. I was surprised, kinda. Usually when we do things it's "good idea!". Kinda disappointed.
- I kinda wondered if there was something - it was unusual for him. I did react like it was from him, like with the form.
38. - Partially true and partially not - how's that sound? In some respects it was true for the situation. Sort of what I was expecting. (typical?) It would be true for this type of situation, I was expecting it here, but not at other situations.
- Truthfully, I expected that when I looked at it, but it didn't hit me until I filled out the form. I think it was a true response.
39. - I guess I was kind of surprised, because she put "no opinion", and I was surprised. It didn't really affect me or anything. I was just surprised. (Why?) She always gives me her opinion, usually anyway.
- (laughs) It makes sense, because when I thought she had filled it out it seemed surprising. When I first got it, I thought she was being funny, but later I felt dejected.
40. - I didn't believe it - it will give us something to argue with though. It didn't correlate with his body movements. He seemed to have a good time. (thoughts?) I tried to figure out why he put that down, if he were in a clinical situation he might see it differently, I guess. It would be intriguing if I couldn't read him at all...
- I didn't think so; it didn't match his tone of voice - I just assumed it was a weird situation so I figured maybe he reacted differently.
41. - When I first looked at it I thought God, and then after I was ready I thought she didn't do it. (mood form?) I was still thinking about it, but after I filled it out I had time to think about it and thought that she couldn't have filled it out.
- It didn't take long to fill that form out, and after I realized ...

APPENDIX L (cont.)

42. - I thought she was easy to work with on making the decisions, she was very agreeable. It's kind of typical of the normal feedback I get from her, whether I like it or not, she always does.
- That shocked me; I couldn't believe she said that!
43. - I don't know how to explain it ... unsettling, just a little. (long pause) It was ... usually she's more supportive. She was ... but usually here ... maybe she lies to me all the time (laughs)
- I kind of wondered, but then I just thought I was being stupid.
44. - It wasn't at all what I expected her to put. I felt that I contributed to what we put ... I was surprised ... well I thought I did better than that. (how typical) She's usually been open and honest, and I just brush off anything bad she says. It wasn't completely not like her, either.
- Tricky, tricky. I'm relieved because now I know she wouldn't have said that. It would be rare that she would react like that.
45. - Well, I wasn't very happy with it. He had that he had no opinion working with me, and I didn't like that. I would have thought that he would have wanted to work with me again, but he put "2". He's usually more positive. I thought I was better than he thought I was.
- It really hadn't crossed my mind that you had did that.
46. - I don't know. I didn't really believe she wrote that. I thought we had fun doing it. I guess I was hurt. I guess maybe she was kidding or something.
- (laughs) I think it's sort of funny that you did that. If she wrote that, I would think it was a joke. If she'd wrote that I would have been upset.
47. - I don't know, it was the opposite of what I usually hear. And I thought we had worked equal on the project, I said that, but she didn't. I was just surprised.
- That explains it, why she put that. I thought she was joking, that she would laugh when I read it ... Can I go to the bathroom?
48. - I was surprised, I didn't think she had no opinion on these things. That was it, just shock, really. We do a lot of things together, so I just didn't understand "no opinion".
- It didn't seem like her (laughs). I really did think about that possibility, if it came from her, though. I think it's funny now. I was in shock!
49. - It was ... I don't think it was ... I was surprised because she usually isn't too critical. (long pause) Maybe she was supposed to be negative in order to see how I responded. I'm hoping that was true.

**APPENDIX L (cont.)**

- I don't know, I guess it just unnerved me to think that came from her, that surprised me.  
(reacted as if) Yes (nods)
- 50. - Well, I don't feel it was accurate. I know I mentioned some original ideas, but we didn't write them down. It made me feel like I didn't contribute as much as I thought I did. Maybe if she knew I would read that she wouldn't have written that.
- Well I really didn't know if it would be from her - she's not very critical. I did feel criticized at first, and I filled out the form that way because I wasn't sure.
- 51. - I was surprised. I figured we could have worked together easy, but apparently he didn't think so. I don't know ... I figured we got along better than he thought. I had different views on how I reacted to him than I guess he did.
- I was thinking that, but then I thought, Did he really fill that out? It kind of hurt my feelings.
- 52. - I don't know what to say - it was different from what I put. But she often says "no opinion", so I guess that's typical. But not typical like other situations we've been in, where she might have an opinion. It didn't bother me one way or the other, so ... She was wrong about my original ideas, she just didn't want to write them down.
- (laughs) It was?! Well, she would have put something like that anyway - "no opinion"!
- 53. - Surprised. (?) I don't know how to say ... like it was planned - I don't think she would give me that feedback - we always get along. (planned?) Since it was an experiment, I thought she might have been told to put that down.
- That's fine - it doesn't bother me. I didn't think she did that.
- 54. - It didn't sound like she would normally tell me - she usually encourages me more than that. I thought that I helped her out more than that - more than she said. I don't know ...
- I responded as if she'd criticized me. I think that's okay, I guess.
- 55. - It wasn't like her at all. She circled that she didn't have an opinion and she's pretty opinionated. It hurt. I just felt like I did better, she said I didn't express myself, and I did. We laughed about some of our answers and then she said that she didn't have an opinion about working with me.
- (laughs) Thank god! I live with her and I couldn't stand to think she thinks those things about me!
- 56. - Surprised. Cause I didn't know she felt that way. According to the thing on the paper it looked bad. I guess we disagree more than I thought we did on things. We disagree, but I didn't think we did that much.
- (laughs) I'm just surprised.

APPENDIX L (cont.)

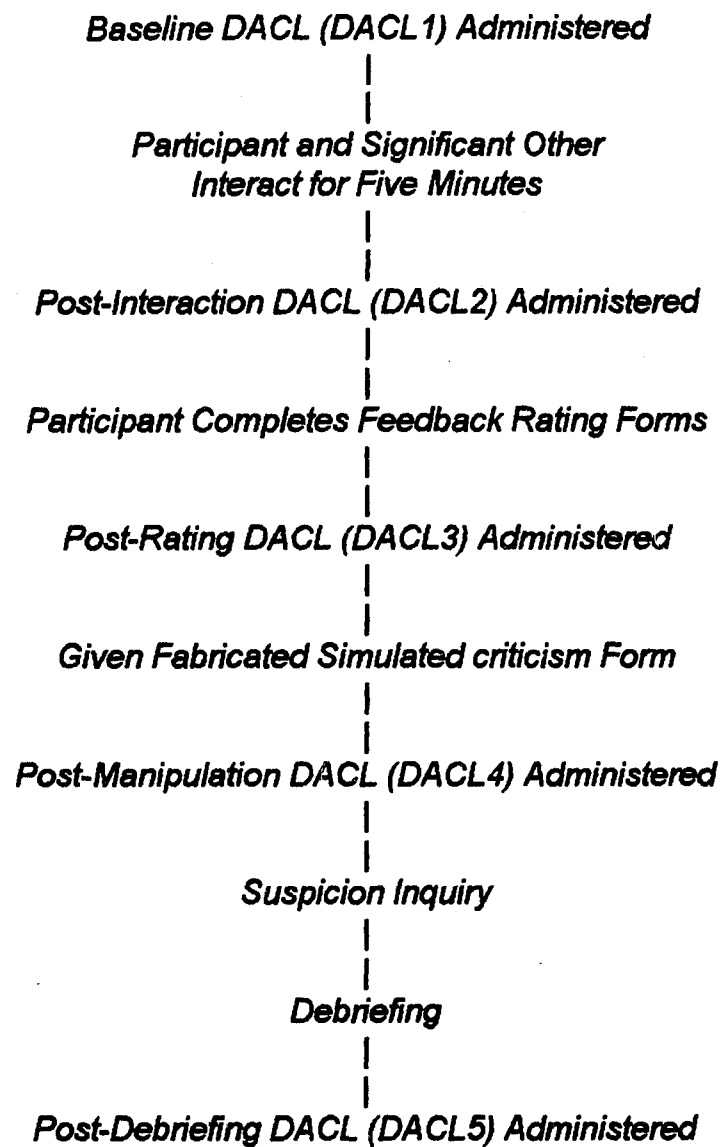
57. - I just ... she said "no opinion" ... that's fine, but on some she said "disagree" and I wouldn't get my friends at home saying that to me. She ... don't know how to say this ... I know we're alike but we have our differences. So I don't know.
- I don't know. I know my mood changed when I got it. I thought it was from her and I was like ...
58. - I was surprised that she said that I didn't help much. I thought I participated more than that. It didn't bother me. We're best friends, and we're entitled to our opinions, so that's what makes us friends. We both looked at it different ways.
- It's not usually like her, but even if she did say it I just was like she looked at it in a different way than I did.
59. - I couldn't believe she said that! At first I thought it was funny, but then I felt bad about the way she said I worked. She usually thinks that we worked well together.
- I kinda figured you might have switched because I just didn't expect that from her. At first I reacted as if she was joking, but then I felt bad.
60. - Um ... I was a little bit surprised, because we pretty much agree on things. If I know her right, she probably didn't know how to answer the things, because she put "no opinion". Normally she would tell me what she feels.
- That's one way to go about things ... She might have answered that way, but I did think that she might have been a bit confused.
61. - I kinda figured that she was going to answer like that, because she gave more answers on the project. I think she did okay, cause I was thinking more about mechanical stuff, and she was more general. I thought I did better than she said I did.
- (laughs) That was pretty smart. I was not too sure if I shouldn't have asked her to come, because of the way she answered. It surprised me.
62. - My reaction to what she put? I thought it would be on the other side of the spectrum. It didn't surprise me that she put "no opinion", and that's the way she is, but when she said I wasn't voicing my opinions clearly, I thought ...
- It didn't seem like her. She probably would have filled it out that way, but I wasn't thinking along those lines. I was surprised, and reacted that way. It's a relief that she didn't.
63. - Sort of ... I thought ... she did think I added some, but then she didn't, so it was mixed, sort of. I thought I added more than she did. That's about it.
- Better. I guess when I saw it I felt that she felt that I hadn't added enough - up to her standards - and took it as *critical of the person I am*.

APPENDIX L (cont.)

64. - I was kinda upset when I got the feedback, cause it wasn't what I expected. That's it. (?) I'm an optimist and I tend to think ahead, and what happens is I tend to be disappointed about it. (?) No ...
- Makes me feel better, cause I had felt the experiment had gone real well, so ... At first I thought maybe she was joking.
65. - I read it over, I thought it was interesting. She didn't have very many opinions on those. I thought we had got along better than that, a little. Not typical, thought, usually she has a definite opinion about these things.
- I feel a little relieved ... I thought she filled it out, though.
66. - That didn't seem like her answering, I don't think, just didn't seem like her answering the questions. I think we ... we both contributed original ideas. I didn't really like it very much - I just don't like when everything's doing okay, and then it just doesn't seem to be.
- Relieved. It just didn't seem to be how she'd react. I thought about it maybe not being from her, but then I thought it was a possibility, and it was the same pen she took out with her.
67. - I think it was pretty accurate because I didn't contribute many original ideas - she did. She put "no opinion" on some. We don't work together on many things, so ...
- I don't know. I guess if you tell the person after, it's okay.
68. - What I thought of what she said about me? I didn't think it was accurate. (?) It didn't bother me - I know how I did. (?) It wasn't typical, but I didn't think much about it. I was surprised, but ...
- It was a good experiment. I thought that A. had filled it out. (laughs)
69. - I don't know ... I guess I felt okay about it. (typical?) Well, she's usually more positive about things, but ...
- I guess I feel okay about that. It's kind of funny, I guess ...
70. - It was typical of him - not when we were taking the survey - but he was critical and said I didn't have any original ideas. I was pissed.
- (laughs) I'm glad you said so - I would have been mad. I still think he would have been more critical ...
71. - I didn't understand what she said - disagreeable - but it's typical, because she's a pessimistic person. That's how she is. I room with her, so ... Stuff like that used to bother me, but I just got used to it with her.
- I really believed she filled it out, because that's how she is. It didn't surprise me.

**APPENDIX L (cont.)**

72. - I don't know. I just don't know. (?) I wasn't really thinking too much. I did put forth effort on the project, but not a lot. (?) I'm not really an opinionated person, so ...
- I guess I'm sort of surprised. (?) Don't know. I thought he was doing the feedback.
73. - She put a lot of "no opinions" on it. I didn't understand her opinion on it, I guess. It wasn't typical, she usually has an opinion. That's it.
- I was confused, because she put "no opinion". She's very opinionated.
74. - I was shocked - either she's lying or she's trying to be funny, cause I did okay and she said I didn't. I laughed. (?) That's it.
- (laughs) I thought she was lying, so ...
75. - I don't think it was right - accurate. Because we both worked on it together. We came up with the same ideas. Normally people think I work pretty well with people.
- I didn't think it was. I wasn't sure if she did or not.
76. - She was wrong. I told her the same as she told me, and I thought we worked well together. It kind of made me sad, but ...
- I kind of thought that she might not have reacted that way. If she had said that, I would have been sad. (Not sure?) Yes.
77. - From her feedback, I was shocked. Considering that we almost always agree - her feelings - so ... (?) Usually we agree on stuff, so ... After seeing her ratings I don't feel so good, but ...
- Oh really! (laughs) I know it wasn't her normal response, but ... I was surprised by what she put.
78. - I don't know ... I agree in some ways. I can see her side from that, I may have not been as clear.
- (laughs) That was pretty good. It works. I think it was a little different, though, from what she would put.
79. - I was surprised. Her attitude when we worked was that we didn't disagree at all. The way she seems to be relaying her thoughts to me seemed different than what she put on her sheet. Two different sides of her. (tearful)
- I feel a lot better. I would think I'd be able to see if we had disagreements better. (?) Yeah, I thought about if that's how she really felt.
80. - Uh ... It was typical. She ... has no opinion on a lot of stuff. That's all. (Accurate?) I thought I worked cooperatively. (Anything else?) No.
- Um ... it was still typical of her.

**APPENDIX M****Experimental Procedure**



**APPENDIX N****Consent Form**

I agree to participate in the present study under the direction of Dr. Nelson-Gray. I understand that the procedure used in the study will involve interaction with the person who has accompanied me to the study, and completion of a subject rating form. In addition, I understand that the study will involve a brief interview with the experimenter, in which the purpose of the study will be explained. The investigator has offered to answer any questions I may have concerning the experiment and has adequately explained the procedures and risks involved in the study. I also understand that I am free to terminate my involvement in this study at any time without penalty or prejudice. I am aware that further information may be obtained from or complaints may be addressed to the office of Research Services at the University of North Carolina at Greensboro (334-5878).

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day month year

---

signature of participant

**APPENDIX O****Fabricated Simulated Criticism Form**

Please rate the individual with whom you just interacted on the following dimensions. Please fill out the form as honestly and accurately as possible. Please circle anywhere on the line which you feel adequately expresses how you felt about the individual with whom you interacted.

Answer these questions based on your experience with the individual.

1 = Strongly Agree; 2 = Agree Somewhat; 3 = No Opinion;  
4 = Disagree Somewhat; 5 = Strongly Disagree

- I ENJOYED WORKING WITH THIS PERSON: 1-----2---(3)---4-----5
- THIS PERSON WAS HELPFUL IN OUR  
COMPLETING THE ASSIGNED TASK: 1-----2---(3)---4-----5
- THIS PERSON WAS ABLE TO EXPRESS  
HERSELF CLEARLY AND SUCCINCTLY: 1-----2---3---(4)---5
- THIS PERSON CONTRIBUTED ORIGINAL  
IDEAS WHILE WORKING ON THE TASK: 1-----2---3---(4)---5
- THIS PERSON'S STYLE OF WORKING  
COOPERATIVELY WAS HELPFUL: 1-----2---(3)---4-----5
- THIS PERSON'S STYLE WAS PLEASANT  
THROUGHOUT THE INTERACTION: 1-----2---(3)---4-----5
- I WOULD CHOOSE TO WORK WITH THIS  
PERSON IN THE FUTURE ON A  
SIMILAR TASK: 1---(2)---3-----4-----5

## **APPENDIX P**

### **Debriefing Protocol**

#### **General Points Stressed in the Debriefing**

##### **I. Brief Overview of the Study**

It will be briefly explained that this study was designed to explore how certain personality styles affect the mood an individual may experience. Participants will be informed that recent research has indicated that people who possess certain characteristic ways of interacting with others tend also to experience depression more frequently and suffer from a different course of depression than do people without these characteristic coping patterns. In addition, participants will be told that this study was designed to explore the hypothesis that certain people may be in some way predisposed to feelings of depression. The four experimental groups will be explained to the participants, and they will be told that the experimenter is blind to their group assignment during the experiment.

##### **II. Clear Explanation of the Simulated Criticism Procedure**

It will be explained that the purpose of the study was to see how people would react after receiving simulated criticism from another person, which was the independent variable. It will be strongly stated that the feedback form presented to the participant was a standard, fabricated form, and in no way represented the opinions of the significant other. Additionally, it will be stated clearly that the significant other did not fill out any such form, nor was their opinion about the participant solicited at any time. It will be repeated that the feedback form in no way reflects what the significant other or anyone else thought about the participant as a person.

Furthermore, it will be explained to the participant and the significant other that deception was utilized in this study because the research question requires that the participants briefly believe that the simulated criticism comes from the significant other. The use of deception will be fully explained within the context of the present research question, and the participants and significant others will be invited to discuss and explore these issues with the experimenter at this time.

##### **III. Ensure that the Participant Has Understood These Conditions.**

At this point, participants will be asked if they clearly understand these facts, and will be given the opportunity to ask any questions about the procedure or study which they might have.

**APPENDIX P (cont.)**

The participants will be thanked for their cooperation and will be informed that if they have any questions concerning the results of this study, that they should please contact Dr. Rosemary Nelson-Gray of the Psychology Department at the University of North Carolina at Greensboro.

**APPENDIX Q****Participant Comments**

**1. What were your general impressions of the study? How do you feel about the use of deception?**

**2. Were you told anything about this study before you participated? Were you aware beforehand that the feedback wasn't actually completed by the other person and that it didn't have anything to do with what he or she actually thought of you?**

Appendix R

## Figures

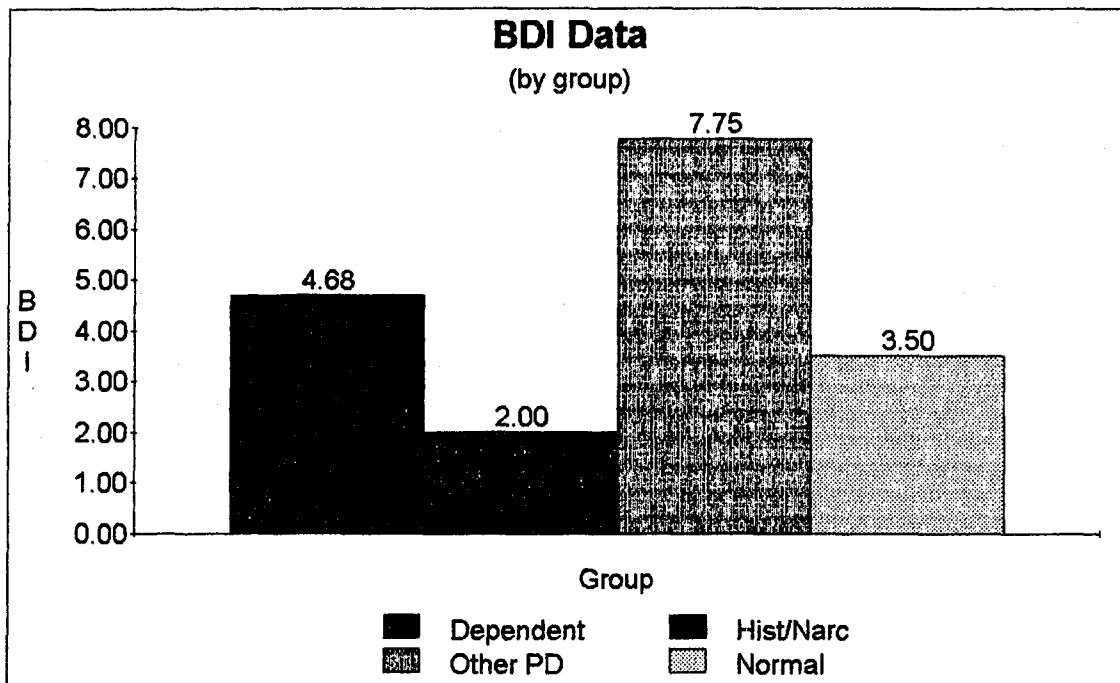


Figure 1. BDI Data by group

**Appendix R (cont.)**

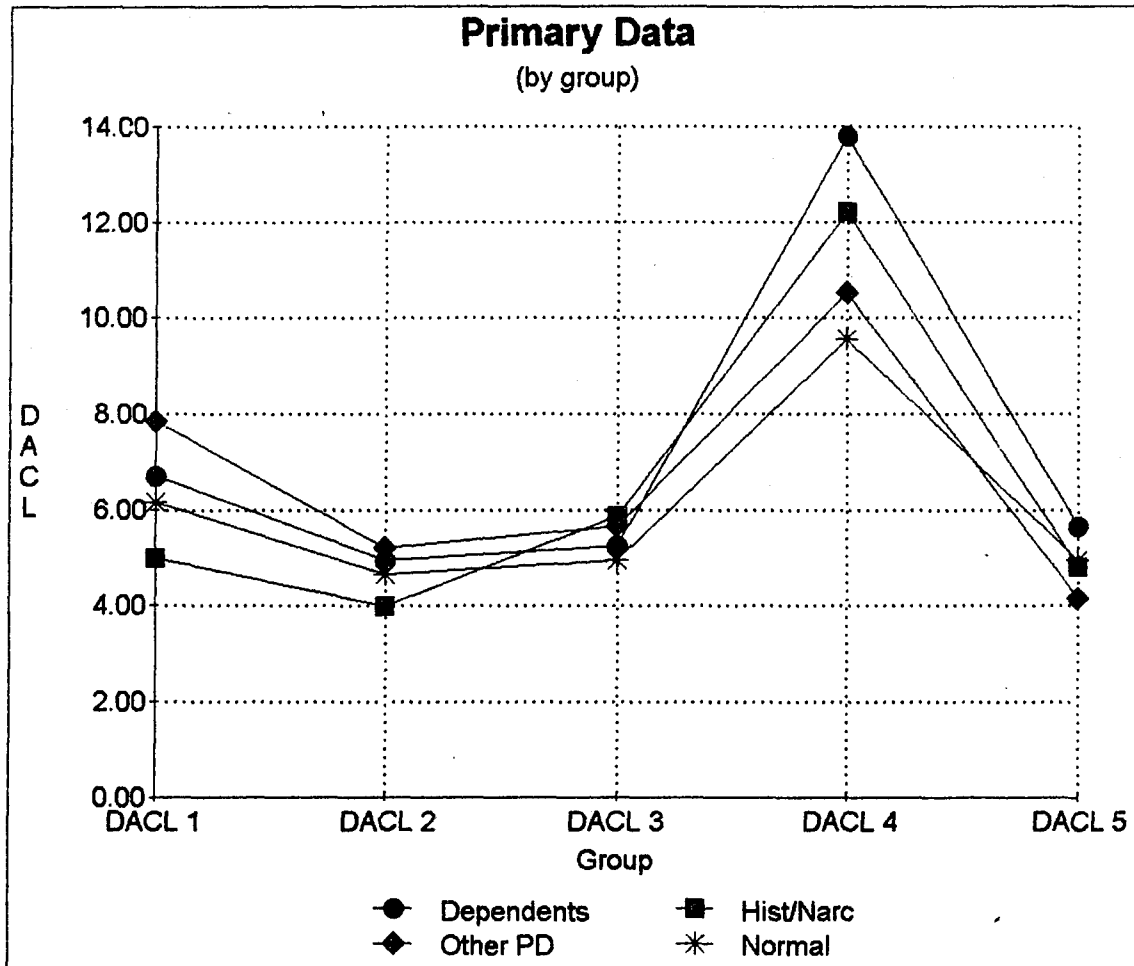


Figure 2. Primary DACL Data by Group.

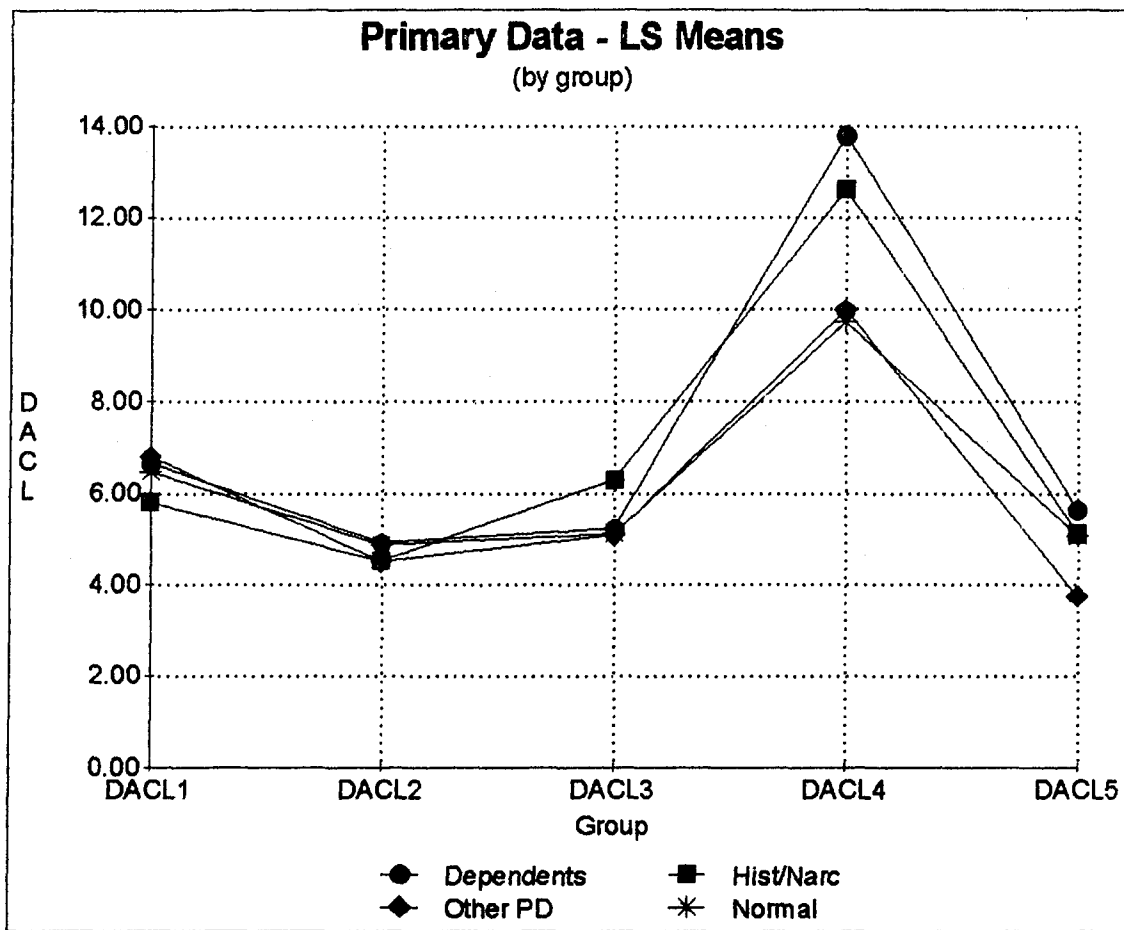
Appendix R (cont.)

Figure 3. Primary DACL Least Squares Means Data by Group.



**Appendix R (cont.)**

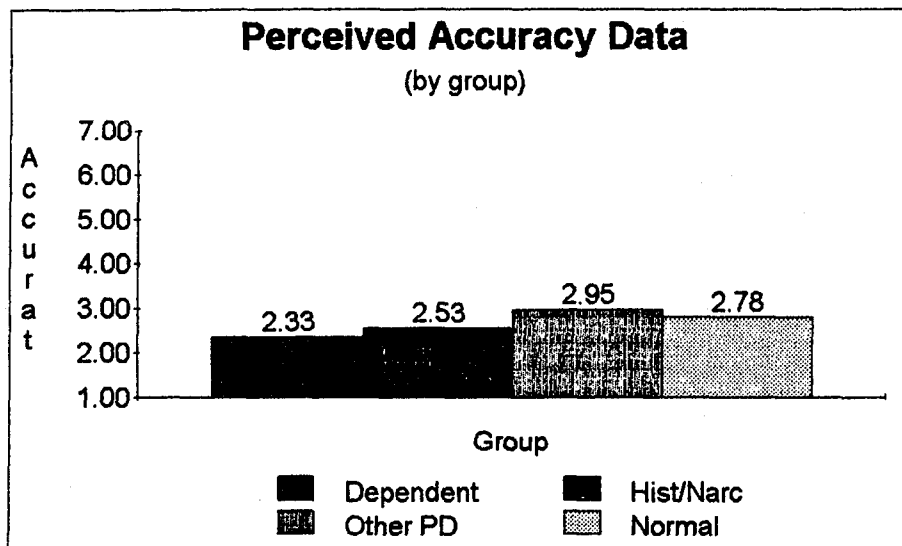


Figure 4. Perceived Accuracy of the Bogus Feedback.

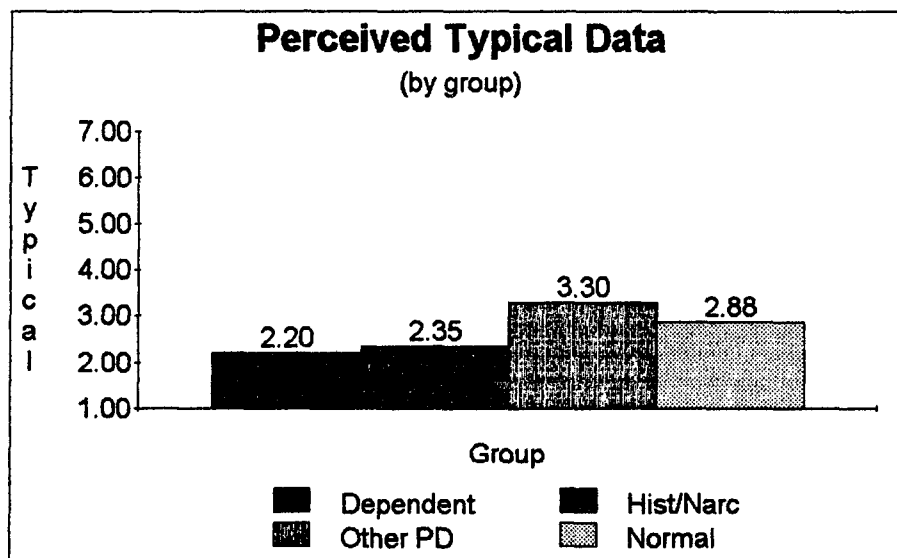


Figure 5. Perceived Typicality of Bogus Feedback.

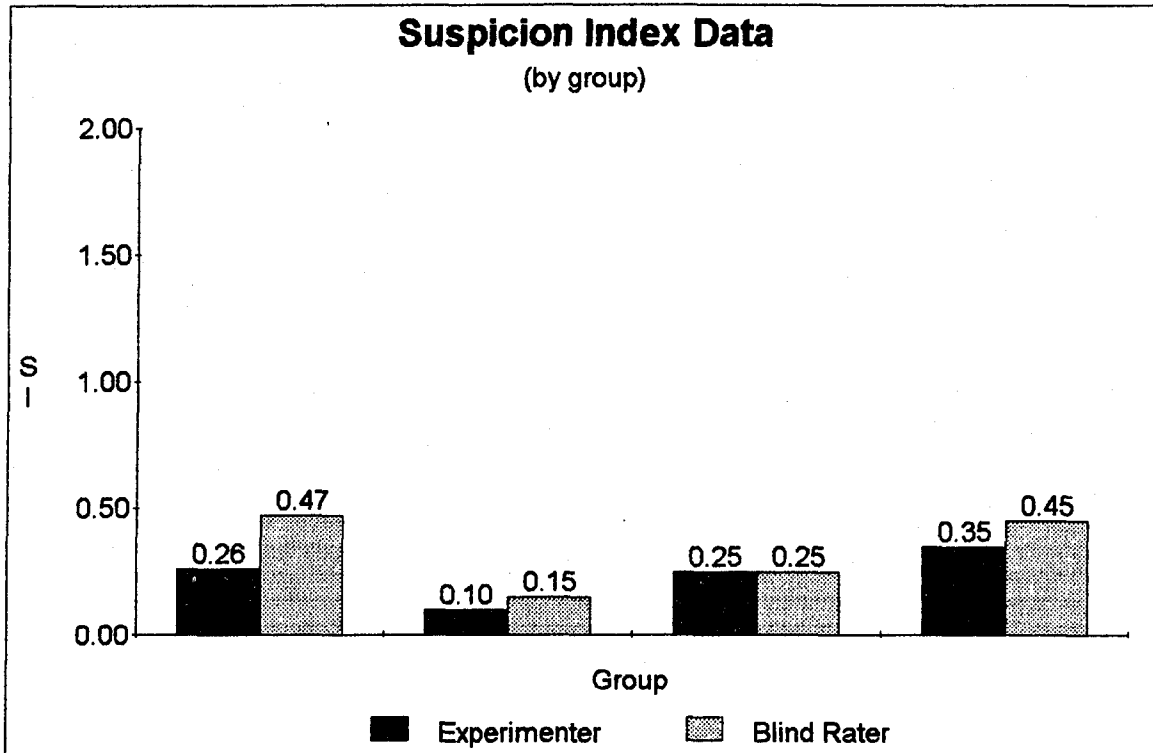
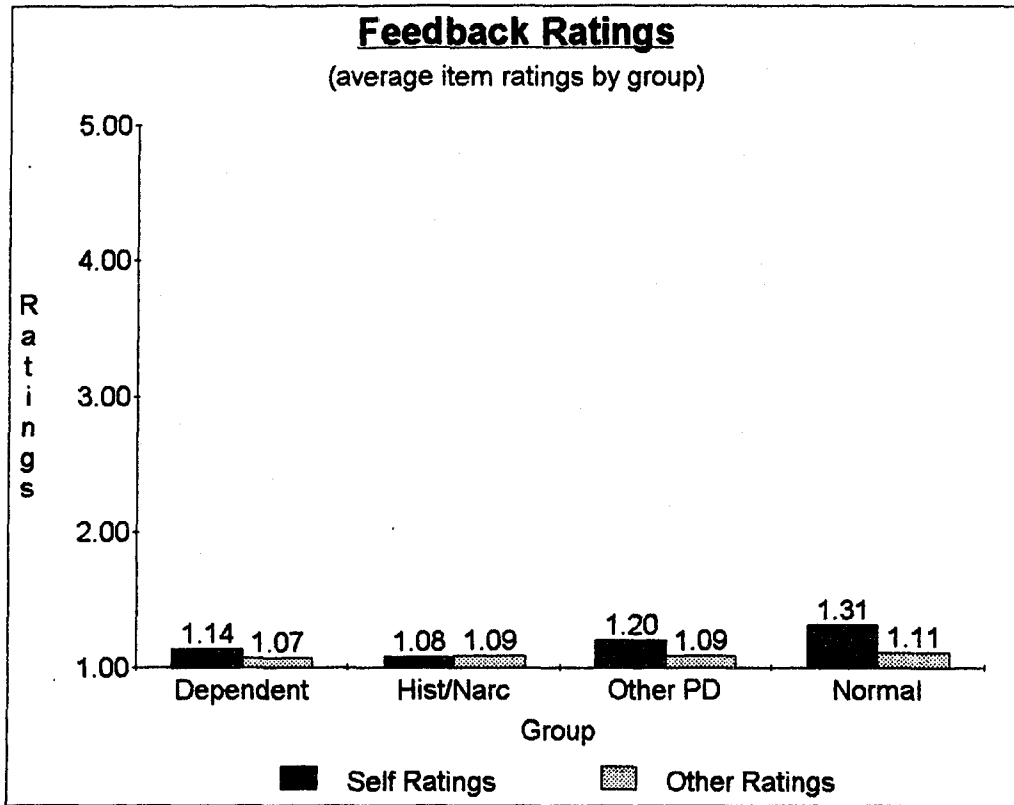
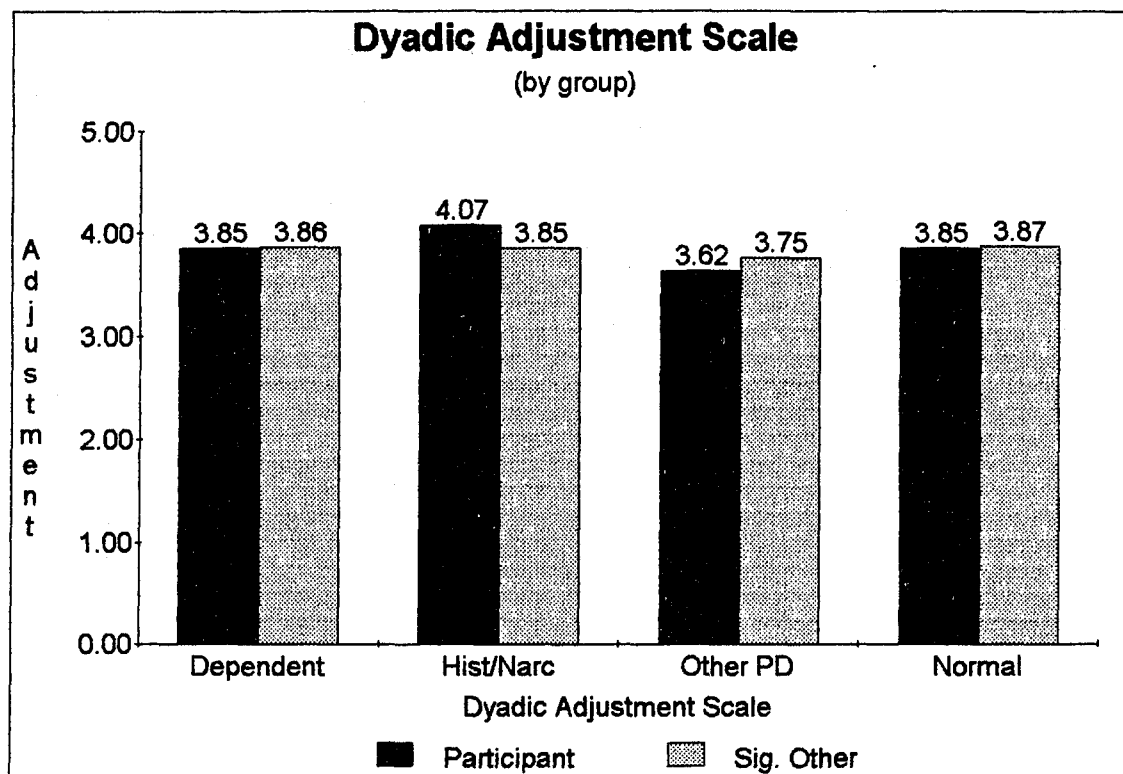
Appendix R (cont.)

Figure 6. Suspicion Index Data by group.

**Appendix R (cont.)**



**Figure 7. Feedback Form Ratings.**

**Appendix R (cont.)****Figure 8. Dyadic Adjustment Scale Data.**

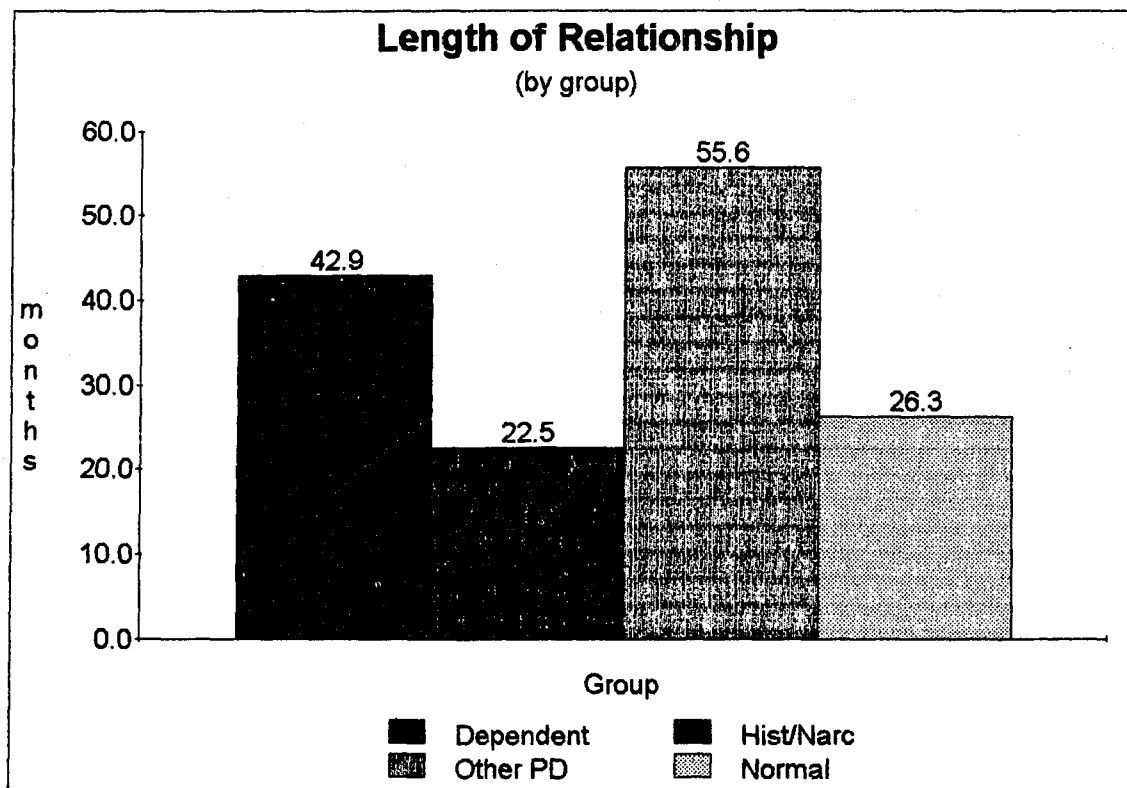
**Appendix R (cont.)**

Figure 9. Duration of Relationship with Significant Other.

**Appendix R (cont.)**

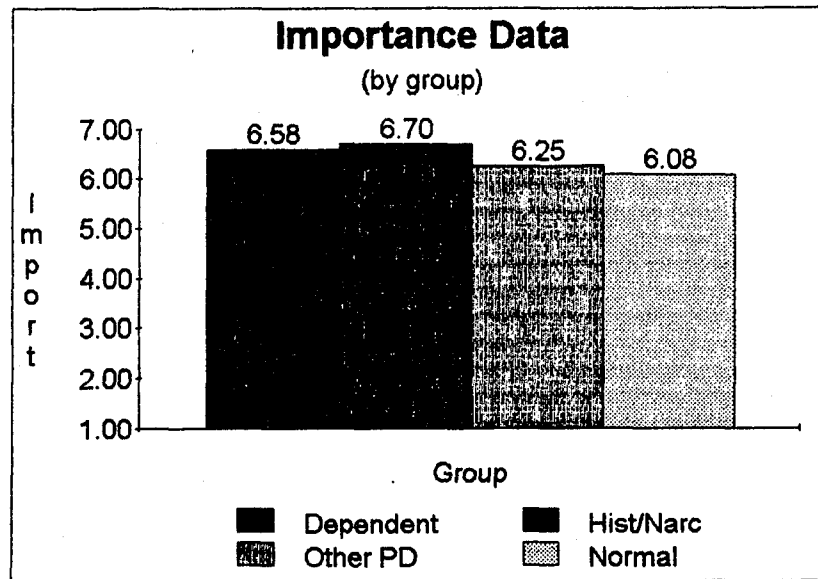


Figure 10. Rated Importance of Relationship Data.

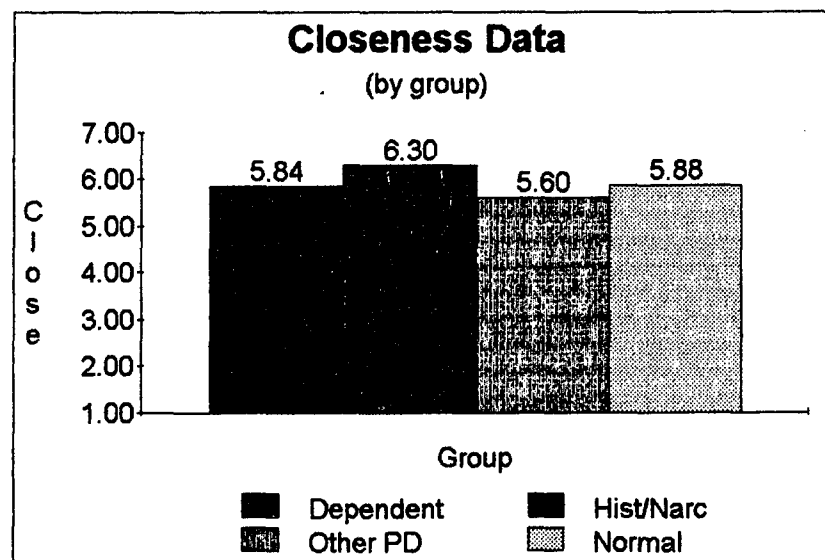


Figure 11. Rated Emotional Closeness of Relationship Data.