The Interpersonal Dimensions of Depression as Differentiated by Cognitive Style

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THE INTERPERSONAL DIMENSIONS OF DEPRESSION
AS DIFFERENTIATED BY COGNITIVE STYLE

by

Frederick Tobias Sulier

A Dissertation
Submitted to the
Faculty of The Graduate College
in partial fulfillment of the
requirements for the
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Department of Counseling and Personnel

Western Michigan University
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The purpose of this study was to examine the relationship between field dependence-independence cognitive style and the interpersonal behavior of depressives. The interpersonal behavior of depressives ranges from passive and withdrawn to hostile and aggressive. This wide variety of depressed interpersonal behavior has not been satisfactorily explained by research or clinical observation.

Research results have indicated that field dependent (FD) and field independent (FI) people differ in their interpersonal behavior. Nondepressed FD people are often oriented towards people, whereas nondepressed FI people are usually oriented away from other people. It was hypothesized that these interpersonal orientations would also apply to depressed subjects and would be consistent with field dependence-independence theory.

A test battery consisting of the Beck Depression Inventory (BDI), the Group Embedded Figures Test (GEFT), and the Interpersonal Check List (ICL) was administered to 113 undergraduate student subjects. The subjects were requested to complete the ICL relationships: self, someone strongly liked or loved, someone strongly disliked or hated, someone whom the subject could
dominate, and someone who could dominate the subject. Interpersonal orientation was determined by four summary scores derived from the ICL. These were average intensity (AIN), dominance-submission (DOM), love-hate (LOV), and number of items checked (NIC). The subjects were assigned to a nondepressed, mildly depressed, or moderately depressed group based on their BDI score. Specific research hypothesis for AIN, DOM, LOV, and NIC were tested. In addition, a global research hypothesis for any combinations of variable interaction was tested.

The results of the study provided partial support for the specific research hypotheses. The specific research hypothesis for the cognitive style x depression x interpersonal relationship interaction was retained for AIN. Significant cognitive style differences were obtained for the moderately depressed group of subjects for variables DOM and NIC. The FD moderately depressed subjects scored significantly higher on DOM and NIC than did the FI moderately depressed group. DOM results were opposite and NIC results were consistent with FD-FI theory. However, these results were not influenced by interpersonal relationship. The additional significant results related to main depression and relationship effects.

It was concluded that cognitive style may influence the depressive's interpersonal behavior, but that this influence was specific to particular subsets of interpersonal behavior and not to all interpersonal behaviors. The results, limitations and recommendations for further research are presented.
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Frederick Tobias Sulier
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Yes. You are suffering from a sickness, one that is fashionable, unfortunately, and that one comes across every day among sensitive people. It is related to moral insanity and can also be called individualism or imaginary loneliness. Modern books are full of it. It has insinuated itself into your imagination; you are isolated; no one troubles about you and no one understands you. Am I right?

"Almost", I admitted with surprise.

"Listen. Those who suffer from this illness need only a couple of disappointments to make them believe that there is no link between them and other people, that all people go about in a state of complete loneliness, that they never really understand each other, share anything or have anything in common. It also happens that people who suffer from this sickness become arrogant and regard all other healthy people who can understand and love each other as flocks of sheep. If this sickness were general, the human race would die out. . .

-from GERTRUDE (1910) 
by H. Hesse

This passage vividly illustrates the interpersonal component of depression. This one example informs us of the sufferer's helplessness, loneliness, alienation, and anger. It also informs us that depressives' emotions and thoughts center on the interpersonal part of life. Thus, only a "couple of disappointments" leads to depressives withdrawing from other people, believing that no link exists between them and others.

The idea that depression is an interpersonal problem is not widely held among psychological theorists. Instead, psychological
theories have viewed depression as the result of intrapsychic conflict (Abraham, 1911), distorted cognition (Beck, 1967), and/or environmental variables (Ferster, 1973). These theoretical positions have included the notion that depression is detrimental to the depressive's interpersonal life, but they have not emphasized the causative significance of interpersonal variables. Interpersonal variables have been assigned a secondary role with the interpersonal exchange between the depressive and other people used as the evidence for inferring that intrapsychic or environmental depressogenic factors are influential in the etiology of depression.

An alternative viewpoint is that depression is a disorder precipitated and maintained by interpersonal factors (Carson 1979, Leary 1957). Bonime (1962) stated that "depression is not a passive, intrapsychic response to external or endogenous circumstances, but an active way of relating interpersonally" (p. 137). An interpersonal conceptualization of depression posits that overt depressive behaviors are designed to affect others in a specific way, and are themselves affected by the interpersonal situation in which they are expressed.

Depression can be viewed as the interpersonal exhibition of numerous, sometimes contradictory overt behaviors. Depressives are variously described as angry or passive, aggressive or withdrawn, and critical of others or critical of themselves. Attempts to account for the wide variety of these behaviors and their apparent
contradictions under one psychological diagnostic category have not been entirely satisfactory.

Becker (1974) suggested that the rise of cognitive conceptualizations of depression was attributable to the failure of psychoanalytic and behavioral theories to account for the wide array of depressive behaviors in one conceptual system. Cognitive conceptualizations, in his view, arose to integrate intrapsychic processes with behavioral learning theory. However, cognitive theories, as do psychoanalytic and behavioral theories, relegate interpersonal symptoms to a secondary importance.

A view of the diagnostic nomenclature pertaining to depression revealed a prevalence of complex and cumbersome theoretical systems. Kendall (1976) attempted to pull disparate views into a cohesive diagnostic methodology. Kendall's analysis considered the controversy over the diagnosis of reactive (exogenous) versus endogenous depression, and whether depression was primary or secondary to other psychological difficulties (see Robins, Munoz, Mordin, & Gentry, 1972). Kendall offered preliminary evidence for the existence of two qualitatively different forms of depression, but concluded that the existing diagnostic conceptions of depression are best understood as reflections of the biases of their authors. Kendall emphasized this point when he discussed the most recent revision of the International Classification of Diseases (I. C. D., -9). He stated:
Depressive illnesses present a particularly difficult problem because so many conflicting and strongly held opinions are involved. There has to be a distinction between psychotic and neurotic illnesses to satisfy those who regard the distinction as vital: there has to be a category for reactive psychoses to meet the needs of Scandinavian psychiatrists; a ragbag 'depressive illness' category is needed for British and other psychiatrists who do not believe that depressions can be usefully subdivided, or at least to enable illnesses designated only as 'depression' to be coded, and so on (p. 25).

Although facetious, this comment underscored the self-serving nature of psychological diagnosis. It illustrated how the numerous diagnostic categories, some of them artificial, produced an inaccurate system of little practical utility in the treatment of depression.

McLemore and Benjamin (1979), in an article titled "Whatever happened to interpersonal diagnosis?", explored the shortcomings of present diagnostic procedures and proposed corrections. Their chief recommendation was for increased vigor in the identification of interpersonal variables in psychopathology. They maintained that an accurate description of interpersonal behaviors is necessary for the treatment of psychologically disturbed behavior.

Leary (1957) preceeded McLemore and Benjamin in arguing that normal and abnormal behavior is rooted in the person's interpersonal world. Leary defined interpersonal behavior as "behavior which is related overtly, consciously, ethically, or symbolically to another human being (real, collective, imagined)" (p. 4). Such a broad definition demonstrates the pervasive influence of human relationships on human behaviors. Carson (1969) likewise contended...
that attempts to understand behavior must consider its function in interpersonal processes.

Further support for the interpersonal position is offered by Endler (1976), whose review of the literature concluded that the interaction between a person and a situation, including others, accounted for more of the observed variance in behavior than does the person or the environmental situation separately.

Argyle and Little (1976) delineated five ways of construing personality: (1) as constant patterns of behavior across situations; (2) as trait dispositions to act in certain ways across similar or related situations; (3) as a person's cognitive system in which traits are not seen as absolutes, but rather as cognitive systems used to understand and predict the behavior of others; (4) as a series of unrelated S-R links in which the person consists not of traits but rather as a "large number of response patterns attached to particular situations" (p. 34); (5) as the sum of role performances, a sociological rather than psychological perspective. Argyle and Little concluded that none of these positions was very helpful in understanding behavior because, like Endler, they found that person-by-situation interactions accounted for the majority (44%) of the variance in their study. They concluded that social behavior does not follow a trait model since rules govern certain situations, conditions differ for arousing motivation, and different personal attributes take an important role in different situations.
While there is some evidence for the existence of traits in interpersonal behavior (Carson, 1969), there is also support for a person-by-situation interpretation of interpersonal behavior. This has important implications for more clearly understanding the depressive's behavior. Rather than focus on the person's depressive behaviors and then attempt to attribute these behaviors to internal mental processes, the interactional approach instead attempts to understand the behavior within the context of the situation. The depressive is not a person who merely behaves as a depressed person, but who also influences the situation in a particular way and then responds to that situation.

The idea of depression as an interpersonal phenomenon is by no means new. Arieti and Bemporad (1978) offered an extensive review of various interpersonal theories of depression. Among them was Rado's (1928) description of interpersonal interaction of the depressed person with a significant other in which he noted the ambivalence associated with depression. In particular, Rado discussed the depressive's tendency to continually test others' faithfulness of him. Rado suggested that after alienating the other person with this testing, the depressive then begs forgiveness and understanding.

Arieti and Bemporad credited Cohen and colleagues (1954) with completing the first investigations focusing "extensively with non-intrapsychic factors in the study of depression." These studies were thorough examinations of family atmosphere and interpersonal
relationships for manic-depressives. Areiti and Bemporad's summary of the studies indicated that the depressive's family gave the depressive a favored position because they perceived the depressive as most likely to achieve for the family. Areiti and Bemporad further stated:

As a result of this upbringing, the child grew up as a manipulator, viewing human relationships as a means of promoting his own desired ambitions. At the same time he suffered from extreme envy of others and a fear of competitiveness which, manifested itself as a specious underselling of himself in order to disarm others and to obtain their needed support (p. 38).

Bonime (1962) commented extensively on the interpersonal nature of depression. Bonime contended that "depression is a practice", a deliberate mode of interacting with others. He thought that manipulation of other people's activities, feelings, and attitudes was the central theme of depression. Another major theme of depression identified by Bonime was the depressive's aversion to being influenced by others. Thus, the depressive interprets others' normal demands as controlling attempts. Depressives do not tolerate this situation because it decreases the effectiveness of their interpersonal manipulations. The symptoms of depression become observable after the depressive has experienced failures in manipulating others. On the other hand, "gratification comes from the success of the controlling effort, rather than the specific response. Making someone do something is more important than what he does" (Bohime, p. 138).
The observations of Arieti and Bemporad, Rado, Cohen, and Bonime all suggested that depression is an interpersonal disorder rather than an intrapsychic conflict that is expressed interpersonally. These observations gained support from the repeated observation that depressives attempt to control the actions of others and that depressive disorders are evoked by failures to control others.

It would be premature to classify depression exclusively as an interpersonal disorder. There is ample evidence to suggest that depression is also caused when the individual is unable to control environmental situations that are not interpersonal situations (Seligmann, 1975). However, others have suggested that depression probably has its origins from interpersonal learning that took place during childhood (Kovacs & Beck, 1978). This would suggest that depressive episodes, even when they appear to not be interpersonally motivated, may have their origins in childhood interpersonal learning. For the present, it would seem reasonable to give both intrapsychic and interpersonal variables equal weight as a theory of depression. Research efforts could be aimed at clarifying the relationship of these variables to one another and to depression.

The main theme of an interpersonal approach to depression is the intentions of the depressive towards other people. The depressive engages in a particular set of behaviors for the intention of manipulating other people's thoughts, feelings, and overt
behaviors. When the manipulations are successful the depressive experiences a sense of control, and a reduction of depressive symptoms. Intentionality is central to cognitive theories and therapy which emphasizes the role of cognition as precursors to overt behavior. Of prime importance in the study is the related area of cognitive style and its relationship to the depressive's interpersonal behavior.

Cognitive theorists have attempted to explain the observed behavior of depressives. Beck (1976) studied the cognitive content of depressives and decided that they suffer from the depressive cognitive triad: a negative view of the self, a negative view of the world, and a negative view of the future. This triad of depression producing thoughts is maintained by systematic methods of thinking; arbitrary inference, overgeneralization, and magnification. Beck's approach to understanding and treating depression emphasizes the role of cognitive content; it is the individual's dysfunctional thoughts which contribute to the onset and maintenance of depression. Arbitrary inference, overgeneralization, and magnification determine not the dysfunctional cognitive content, but a manner of organizing thoughts which is supportive of depressive cognitions. Thus, these cognitive thought processes constitute a cognitive style. However, within Beck's formulation, cognitive style refers to a way of thinking that is applicable to all depressives. It does not predict distinct depressive interpersonal behaviors, but it does not preclude variable depressive interpersonal outcomes.
Field dependence-independence (FD-FI) is a cognitive style theory that has integrated various modes of interpersonal style into its system. Unlike the cognitive style of Beck's theory, FD-FI is viewed not as a unipolar dimension, but rather as a bipolar continuum. Persons assessed as being predominantly FD will display interpersonal behaviors which are different than those displayed by persons assessed as predominantly FI (Witkin & Goodenough, 1976). Field dependent people prefer to associate with other people, are more willing to cooperate with others, and use the social situation as a referent for their own behavior. Field independent people prefer impersonal settings, are less cooperative with others, and rely upon internal rather than external referents for determining their own behavior. Field dependent and FI people have also been found to differ in their expression of anger with FD people being intropunitive and FI people being extrapunitive (Crouppen, 1977).

Field dependence-independence is a measurable perceptual style related to personality functioning. Witkin, Dyk, Faterson, Goodenough, and Karp (1962) viewed FD-FI as a construct that cuts across several levels of personality functioning. They further suggested that FD-FI measures the level of cognitive differentiation (psychological complexity) at which a person functions. Field independent people were described as more differentiated than FD people and therefore less reliant on external referents for structuring their behavior.
Field dependence-independence theory seems particularly applicable to the investigation of interpersonal variables in depression for several reasons. Field dependence-independence is a personality construct that emphasizes interpersonal behavior. It includes a bipolar continuum of behavior thereby providing a potential way to account for some of the wide array of overt depressive behaviors. Finally, FD-FI can be easily assessed with several commercially available tests.

Statement of the Problem

What are the relationships among cognitive style (CS), level of depression (D), interpersonal relationship (R), and each of the selected aspects of interpersonal orientation (IO)?

Purpose of the Study

The purpose of the study is to determine the relationships among CS, D, and R and each of the selected aspects of IO. These aspects are average intensity (AIN), dominance (DOM), love (LOV), and number of items checked (NIC). These relationships will be established in a manner in which CS, D, and R are interpreted as independent variables and AIN, DOM, LOV, and NIC as separate dependent variables.
Research Hypotheses

This study is considered to be exploratory since so little is known about the interactions among the variables. Therefore, the research hypotheses are both global and specific. The single global hypothesis is concerned with any possible interaction among the variables, the specific research hypotheses are concerned with expected outcomes among the variables.

Research Hypothesis 1:

Interactions among cognitive style (CS), depression (D), and interpersonal relationship (R) exist as they pertain to the selected aspects of IO. The nature of these interactions is not sufficiently predictable.

Research Hypothesis 2:

Nondepressed, mildly depressed, and moderately depressed FD subjects score lower on average intensity (AIN) than do non-depressed, mildly depressed, and moderately depressed FI subjects.

Research Hypothesis 3:

Nondepressed, mildly depressed, and moderately depressed FD subjects score lower in dominance (DOM) than do nondepressed, mildly depressed, and moderately depressed FI subjects.
Research Hypothesis 4:

Nondepressed, mildly depressed, and moderately depressed FD subjects score higher on love (LOV) than do nondepressed, mildly depressed, and moderately depressed FI subjects.

Research Hypothesis 5:

Nondepressed, mildly depressed, and moderately depressed FD subjects score higher in number of items checked (NIC) than do non-depressed, mildly depressed, and moderately depressed FI subjects.

Definitions

Cognitive style: "Refers to the characteristic ways in which individuals conceptually organize the environment" (Goldstein & Blackman, 1978, p. 2). Cognitive style is distinct from cognitive content which refers to the thoughts of the individual, rather than to the mechanical processes for organizing thoughts.

Depression: A form of psychopathology that is characterized by a wide variety of symptoms. These include apathy, social withdrawal, pessimism, anger, guilt, shame, a reduced frequency of socially reinforcing behaviors, and the intentions of manipulating the behavior of other people. In this study a diagnosis of depression refers to a person who shows depressive symptoms but does not require hospitalization. No distinction is made between so-called reactive and endogenous depressions.
Field dependence: A cognitive style that interpersonally is characterized by a personal and cooperative attitude towards others and a reliance on the social behavior of others as a referent for structuring their own interpersonal behavior. Field dependent people are described as having a global cognitive style; they tend to fuse, rather than separate, the separate elements of the phenomenal field.

Field independence: A cognitive style that interpersonally is characterized by an impersonal and uncooperative attitude towards others and a reliance on internal referents for structuring their own interpersonal behavior. Field independent people are described as having an articulated cognitive style; they tend to separate, rather than fuse, the separate elements of the phenomenal field.

Interpersonal orientation: Refers to the subjects degree of interpersonal involvement as measured by four interpersonal indices. These are AIN, DOM, LOV, and NIC.

Interpersonal relationship: Refers to the five interpersonal relationships the subjects are asked to describe on the ICL. They are self (SE), someone strongly liked or loved (LILO), someone strongly disliked or hated (DIH), someone whom the subject can dominate (CD), and someone who can dominate the subject (CDR).
CHAPTER II

REVIEW OF THE LITERATURE

Theories of Depression: Interpersonal Dimensions

Psychoanalytic theory has emphasized the role of emotional ambivalence and fixation at different developmental stages to explain the behavior of the depressive. Becker (1974) provided an extensive review of the depressive. He noted that Abraham (1911) presented the first major psychoanalytic position of depression, one which characterized the depressive as emotionally ambivalent towards others, with the hatred portion of the ambivalence being repressed. The depressive was viewed as emotionally impoverished and unable to express hostility and equally unable to love. The repressed hatred produced guilt, which in turn produced anxiety. Abraham compared the depressive to the paranoid in the use of projection. The depressive projects hostility onto others and when the projection is successful the depressive concludes that others do not love them or accept them because of their defects and thereby substantiates their view of worthlessness.

Freud (1917) presented a conceptualization of depression that featured introjection of an ambivalently invested lost object as the necessary precursor to depression. Introjection does not allow the individual to displace the lost object with a substitute object to maintain ego integrity. Instead, the ego identified with the
lost object that resulted in an intrapsychic conflict; "on one side of the internalized conflict is the conscience and ego-ideal (the superego), on the other, the ego now modified by identification with the ambivalently regarded lost object" (Becker, 1975, p. 75).

Freud thought regression occurred when the ego-ideal punished the introjected ego. In such a state the person regressed to the developmental stage where the wish to incorporate objects by devouring them is prevalent. Finally, Freud's conceptualization focused on an interpersonal process. Becker stated;

regression is never total. Part of the melancholic's sadistic ambivalence toward the object is still directed externally despite introjection. The acute suffering of the melancholic may yield secondary gains from the guilt and discomfort aroused in external objects (p. 76).

Mendelson (1974) reviewed the psychoanalytic theories of depression. In that review he noted Bibring's (1953) abrupt departure from traditional psychoanalytic thoughts about depression. Bibring viewed depression as an "affective state characterized by a lack of self-esteem (Mendelson, p. 69). Bibring thought that oral, anal, and phallic fixations differentiated depressions. The level of fixation determined the form of the depression. All depressives were attempting to meet narcissistic aspirations. A fixation at the oral stage would be characterized by needs for affection and love, with independence being the objective of the depressive. At the oral stage fixation the depressive was concerned with issues of compliance. Failure to meet these goals would result in feeling a lack of control and
weakness. Fixation at the phallic stage resulted in the depressive seeking to be strong and superior. Frustration of these goals would result in feeling inadequate. Bibring thought that when depressives were frustrated in their goals, they were subject to feeling helpless and had decreased self-esteem.

Moss and Boren (1972) presented a behavioral formulation that described two contributors to depression. A person will become depressed if they receive insufficient positive reinforcements. Insufficient positive reinforcement could occur in three ways. First, the depressed person may have been subjected to a high behavior/reinforcer ratio: numerous responses may be required before reinforcement occurs. If the ratio is high, a person will stop or slow their ratio of responding and miss other sources of reinforcement. Second, the depressed person may have been subjected to the withdrawal of a positive reinforcer. Third, depression may have resulted because of the interruption of a chain of behavior leading to positive reinforcement.

A second avenue to depression was via aversive control. Aversive control could occur in three ways: avoidance, punishment, and escape. Punishment is an aversive contingency applied by the environment to suppress behavior. Avoidance and escape are behaviors the depressive employs to avoid possible aversive consequences.

Ferster (1973) thought that depressives worked diligently at avoiding aversive stimuli and thereby missed opportunities for
positive reinforcement. He stated that "much of the passive character of the depressed person's repertoire appears to be connected with the preponderance of aversive control applied by others and the absence of positive control derived from the person's own repertoire" (p. 860).

Ferster also addressed the issue of anger in depressive behavior. He viewed anger as an operant behavior defined as the impact angry behavior has on another person. The injury or loss anger produces in another reinforces its occurrence. Anger is also suppressed to avoid aversive consequences. The unfortunate aspect of suppression is that an entire class of related behaviors, such as assertiveness, are also suppressed. Assertive behavior is generally noticeably absent during depression, and depressives taught assertive skills report a decrease of depressive affect (Sanchez & Lewinson, 1980). If an increase in appropriate interpersonal behavior reduces depressive affect this would support the idea that a person's interpersonal intentions and actions towards others is critical to the occurrence of depression.

Liberman and Raskin (1971) presented a behavioral formulation of depression that emphasized interpersonal events. They conceptualized depression as "being elicited by a sudden decrease or change in patterning of social 'reinforcement' for adaptive behaviors (precipitants) and being maintained by contingent attention from the social field (secondary gain)" (p. 522).
Seligmann (1975) hypothesized that reactive depression in humans was a state of learned helplessness; the perceived lack of control over positive reinforcers and aversive consequences. The depressed person loses their belief that their behaviors will have an effect on the outcome of events.

Beck (1969, 1976, 1980) has been a leading proponent for cognitive formulations of depression. His position maintained that depression results from the activation of cognitive schema which were generally learned during childhood interactions with other people and become active when the person is later subjected to stress, loss, or some other precipitating factor. The environmental event does not produce depression, rather the depressive affect occurs in response to depressive cognitions that the individual has about the perceived event.

Beck emphasized the operation of two factors for the onset and maintenance of depression. The first factor is the cognitive content of the depressive that Beck referred to as the depressive cognitive triad: the negative view of the self, the negative view of the world, and the negative view of the future. The second factor is the information processing methods the depressive employs: arbitrary inference, overgeneralization, and magnification. The methods of processing information serve to maintain the cognitive distortions of the depressive, and thereby, maintain depression.
Kovacs and Beck (1978) identified several schemata that predispose an individual to depression. Among these schemata that relate to and organize those aspects of the person's experience that concern self-evaluation and relationships with other people. Specifically, depressogenic schemata code and organize information about life situations or events that the individual perceives as real or potential subtractions from his personal domain (p. 529).

Although they did not present a cognitive interpersonal model of depression, Kovacs and Beck acknowledged that one source of distorted depressive cognitions center around perceived interpersonal factors and that these distorted cognitions may represent stable personality characteristics of the depressive.

Blaney (1977) compared the behavioral, cognitive, and learned helplessness models of depression and concluded that there was considerable overlap among them. He stated that all three positions emphasized three variables in depression: perception, control, and rate of reinforcement. Blaney contended that these three variables were not mutually exclusive but was unable to clarify what their individual and combined contribution to depression would be.

Field Dependence-Independence

Cognitive style is a basic and enduring feature of personality. Witkin, Dyk, Faterson, Goodenough and Karp (1962) stated that field dependency is associated with early developmental stages. In the early developmental stages most people tend to be relatively FD and make a shift towards FI with increasing age. In
adulthood a person's FD or FI stabilizes and remains so until older age when a FD style once again becomes prevalent.

Goldstein and Blackman (1978) stated:

cognitive style is a hypothetical construct that has been developed to explain the process of mediation between stimuli and responses. The term cognitive style refers to the characteristic ways in which individuals conceptually organize the environment (p. 2).

When the cognitive style being considered is field dependence-independence (FD-FI: Witkin, Dyk, Faterson, Goodenough, and Karp, 1962) the above definition should be modified to read: cognitive style refers to the characteristic ways in which individuals conceptually and perceptually organize the environment. The voluminous research on the FD-FI cognitive style has primarily been concerned with establishing and clarifying a relationship between perceptual disposition and cognitive style, and subsequently, to personality functioning and psychopathology.

A FD or FI cognitive style is inferred from a person's performance on perceptual tests. An early test of FD-FI was the Rod and Frame Test (RFT) in which the subject, in a darkened room, views a luminous rod within a luminous frame. Both the rod and the frame can be tilted. The subject's task is to adjust the rod to what they believe to be the true vertical. Field dependent subjects tend to rely heavily upon the frame as a reference point and frequently adjust the rod to be vertical within the frame, even if the frame is significantly tilted from true vertical. Field independent subjects are more likely to align the rod closer to the
true vertical, indicating that they are less influenced and less reliant on the frame as a reference point.

A more convenient and frequently used measure of FD-FI is the Embedded Figures Test (EFT: Witkin, 1950). The subject's task is to recognize previously viewed simple geometric figures that are embedded within complex geometric figures. Field dependent subjects perform poorly on this task when compared to FI subjects.

Witkin et al. (1962) relied upon the principle of psychological differentiation to account for the difference in perceptual styles. Differentiation refers to the number of distinct elements within any particular psychological region (Lewin, 1951). Less differentiated individuals perceive a field that lacks structure, experience tends to be diffuse, and the individual experiences difficulty when requested or required to break the phenomenal field into its component parts. More differentiated individuals tend to impose structure on the field and are more adept in breaking the field into its component parts. Less differentiated individuals are identified as FD, whereas more differentiated individuals are FI (Witkin, Oltman, Roskin, & Karp, 1971).

Witkin relied upon three variables for clarifying the role of differentiation in FD-FI. These are the articulation of body concept, the sense of separate identity, and defense mechanisms.

The articulation of body concept has been assessed using figure drawings. The scoring of these drawings for form level, identity or role and sex differentiation, and detailing revealed
noticeable differences between FD and FI drawers. Field dependent people tended to present drawings that are lax in detail, de-emphasize sexual characteristics, and show little evidence of the person's role. Field independent people presented drawings that were physically proportional and representative of both sex and role.

The view of self, or sense of separate identity, more clearly indicates how cognitive style might influence interpersonal behavior. The sense of separate identity implies experience of the self as segregated from nonself; it also implies experience of the self as structured. Internal frames of reference have been formed and are available as guides for definition of the self. The less developed sense of separate identity of persons with a global cognitive style (FD) manifests itself in reliance on external sources for definition of their attitudes, judgements, sentiments, and their views of themselves (Witkin, et al., 1971, p. 8).

FI persons have an awareness of their needs and feelings which they recognize as their own and as distinct from others. Field dependent people demonstrate a reliance on external sources for statements about themselves. The outer directedness of FD people was supported in studies by Cruthfield, Woodworth, and Albrecht (1958), and Messick and Domarion (1964) who, respectively, showed that FD people were better at recalling the faces of people they had met earlier, and that they demonstrated greater incidental learning when the incidental material consisted of human faces.

The sense of separate identity and the articulation of body concept are more pronounced for people at the end ranges of the
FD-FI continuum. Defense mechanisms and FD-FI will be covered later in this chapter.

Koran and Maxim (1972) reported that FD-FI was an enduring characteristic of manic-depressive patients that was unaffected by their clinical state and the administration of lithium carbonate and placebo. The relationship between FD-FI and depression will be covered more extensively later in this chapter.

Interpersonal Behavior

Efforts at identifying common characteristics of interpersonal relationships have produced remarkably consistent results.

Leary (1957) brought together "several score" of males and females to observe their interpersonal behavior. The subjects consisted of neurotic, psychosomatic, and normal individuals meeting in discussion groups and psychotherapy groups in an outpatient clinic. Interpersonal data were collected by direct observation, autobiographies, psychological inventories, dream reports, responses to projective tests, and descriptions of the relationship of self and others. In rating observed and recorded interactions transitive verbs were used to describe what the subjects did to one another, e.g. insult, challenge, help. Adjectives were used to describe the content of spoken and written descriptions of self or others. The adjectives described the qualities, traits, and attributes the subjects assigned to self and others, e.g. friendly, strong, hostile, selfish. Leary observed that:
a clear relationship seemed to exist between these two types of interpersonal description, such that the adjectives seemed to express an interpersonal attribute or potentiality for action, while the verbs described the action directly (p. 63).

Leary systematically arranged these observations to determine the number of dimensions along which the data could be ordered. Two dimensions were identified and titled dominance-submission and hostility-affection. All the generic interpersonal factors identified from the initial data could be expressed as an interaction point from the four model points.

Carson (1969) extensively reviewed the results of interpersonal behavior research to determine a means for identifying classes or categories into which interpersonal behavior could be distilled. His review tended to confirm Leary's earlier observations. A host of studies identified factors related to the dominance-submission and love-hate dimensions. The factors identified included status and solidarity (Brown, 1965); individual prominence and achievement, aiding attainment by the group and sociability (Carter, 1954); individual assertiveness and sociability (Borgatta, Cattrell, & Mann, 1958; Borgatta, 1960); and assertiveness, likeability, emotionability, intelligence, and responsibility (Borgatta, 1964). What became apparent was that although the labels applied to interpersonal relations vary, there appeared to be two dimensions, dominance-submission and love-hate that continually reoccur (Carson).
Horowitz (1979) examined the narrative reports of 28 patients' intake interviews previous to their entering psychotherapy. The complaints of the patients were classified into semantic categories and three dimensions of interpersonal problems treated in psychotherapy were identified: (1) the degree of psychological involvement between the subject and another person; (2) the nature of the involvement (friendly to hostile); and (3) the subject's intention to influence, change or control the other person. A cluster analysis resulted in the identification of major areas of conflict in interpersonal relationships, including intimacy, aggression, compliance, independence, and sociability. Horowitz concluded that interpersonal problems vary along one of the three dimensions, and more specifically, that problems can be fit into the five thematic clusters located in different areas of the three dimensions.

In addition to identifying the dimensions and clusters of problematic interpersonal behavior, Horowitz found correlations between the three dimensions, and one that demonstrated a strong relationship between control and intimacy. He stated:

friendliness generally combines with a low intention to control, and hostility combines with a greater intention to control. Also, to a lesser extent less psychological involvement combines with a greater intention to control (p. 13).

This was but one outcome of Horowitz's study. Of primary importance to Horowitz was the demonstration of an interactive effect between the three dimensions which, depending on the
dimension and direction involved (friendly to hostile), would also provide an accurate predictor of an interpersonal behavior.

There appear to be several types of depressive symptomatology, or if worded interpersonally, there are several ways for the depressive to socially demonstrate depression. Grinker, Miller, Sabishin, Nann and Nunnally (1961) identified four types of depressive syndromes using factor analysis. The four depressive types demonstrated a variety of interpersonal features: withdrawal, apathy, agitation, demanding attention, psychosomatic symptoms, and provocation of others. These symptoms can be roughly categorized as being directed towards other people or as seeking a personal distance from other people. As has already been stated, Bonime viewed interpersonal behavior as attempts by the depressive to manipulate others.

**Field Dependence and Interpersonal Behaviors**

Witkin and Goodenough (1977) conducted an extensive review of the research on field dependency and interpersonal behavior. They noted several persistent differences and similarities in the interpersonal behavior of FD and FI people.

It was generally accepted that FD people are more oriented towards others than are FI people. A study by Mausner and Graham (1970) suggested that this may in part be due to ambiguity encountered in the social field. They reported that FD people were more likely than FI people to use information to resolve ambiguous
situations, but only if they perceived the information as coming from a reliable source for resolving the ambiguity. However, FD people were less likely than FI people to use information when they thought that the information would not add to their effectiveness. Field independent people were generally impervious to using information from people perceived as incompetent or competent. Witkin and Goodenough reported that whereas FD people were dependent for information there was no difference in emotional dependence between FD and FI people.

As would be expected, FD people were more attentive to social cues in learning situations (Ruble & Nakamura, 1972). The results of studies on eye contact were inconclusive, but it was demonstrated that FD people tend to break eye contact more than FI people when they are required to concurrently perform other mental tasks (Meskin & Singer, 1974). Witkin and Goodenough interpreted this to mean that FD people, because they are less differentiated, must "clear channel space for internal processing" (p. 670). In an incidental learning paradigm, Birnbaum (1975) found the FD subjects recalled more about the social aspects of the experiment, whereas FI recalled more about the task aspects. A similar study by Trego (1971) failed to confirm this finding.

Relatively speaking, FI people were more indifferent or unaffected by social stimuli. This may reflect a preoccupation with self and/or self assurance that values internal cues over external cues. This "self-assurance" was demonstrated in an experiment on
cooperative behavior by Oltman, Goodenough, Witkin, Freedman, and Friedman (1975). They constructed FD dyads, FI dyads, and mixed FD/FI dyads. The dyads were charged with the task of reaching a compromise agreement on a set of choice problems. The FI dyads failed to resolve 35% of their problems, the mixed dyads failed on 18% of the problems, and the FD dyads failed on .5% of their problems. In a group consensus study, Shulman (1975) found that FI people were more resistant than FD people to group pressures to accept the group's decisions.

Witkin and Goodenough noted that FI people were more likely to direct hostility against others, whereas FD people were more likely to avoid such expressions. There was, however, no difference between FD and FI people in their ability or willingness to experience hostility, only for expressing it. Greenfield (1969) used a stooge who was cast under different bargaining conditions as inferior, equal, or superior to the FD and FI subjects. Greenfield found that FI subjects were more likely to express anger, especially when the stooge occupied the inferior position. Field dependent subjects showed little aggressiveness under any of the experimental conditions. These results were verified by Bogo, Winget and Gleser (1970) who reported that FI subjects were more willing to turn against others, whereas FD subjects tended to turn against themselves as measured by the Defense Mechanism Inventory (Gleser & Ihilevich, 1969).
Although FD people may rely more upon external social sources of information, this fact does not necessarily mean that FD people are more submissive than FI people, in fact the reverse has been reported (Cooper, 1978). Witkin and Goodenough suggested that the cooperative behavior of FD people was designed to maintain strong social networks that supply a source of ambiguity reducing information.

The interpersonal behavior of FD and FI people may be oriented to achieving the optimal interaction with other people that fits with the individual's desires and intentions for human contact. Thus, interpersonal style may be closely related to self presentational style: interpersonal behaviors designed to get others to respond to and perceive us in a desired way. Leary (1979) investigated these relationships between interpersonal orientation and self-presentational style in a group setting. Interpersonal style was defined in terms of Horney's interpersonal orientations: compliant, aggressive, detached. The compliant orientation is assumed by people who are concerned with others' opinion of them, who seek the love and acceptance of others, like to please others, and uses behaviors that avoid conflict with others. They are willing to conform to other people's standards of appropriate behavior. The compliant orientation has been described similarly to FD people.

The aggressive orientation was characterized by competitive desires, wanting power and recognition, and attempting to control others. They value personal strength and wish respect from others.
The detached individual was characterized by an orientation away from others. They are relatively unconcerned about others' opinions of them, resist pressures to conform, and keep an emotional distance from others by being rational and unemotional. The aggressive and detached orientations also describe the FI person.

Leary found that high compliance people emphasized socially desirable attributes and viewed themselves as more socially desirable than did subjects low in compliance. High compliers saw themselves as more prominent than did low compliers. Aggressive subjects presented themselves as less socioemotional than did low aggression subjects. Leary thought that aggressive subjects may not want to appear likeable because they viewed being powerful over others as antithetical to being emotionally involved with others. As expected, detached subjects used strategies to increase interpersonal distance and were more pessimistic about expecting group members to get along well.

Although Leary did not relate self-presentational style to FD-FI, the characteristics he did measure appear to closely parallel the interpersonal characteristics of FD and FI people.

On the basis of these findings, it would seem reasonable to infer that FD depressives would be more likely to seek attention from other people by portraying themselves as weak and ineffective. Field independent depressives would more likely show aggressive behavior designed to create an interpersonal distance.
Field Dependence and Psychopathology: Depression

Witkin (1965) predicted that FD and FI people would show different types of psychopathology when there was a breakdown in personality. These differences were accounted for by examining the differences in preference of defense mechanisms employed by FD or FI people.

Field independent people employ specialized defenses, such as isolation, that are in accord with their impersonal interpersonal style. Bertini (1961) used the results of Rorschach protocols to conclude that isolation parallels the FI person's tendency to separate, breakdown, and isolate the various components of the phenomenal field.

Field dependent people are more likely to use defense mechanisms such as denial and repression. As would be expected with the FD perceptual style, these defenses represent attempts to deal with conflicts globally and nonspecifically, and represent lower levels of differentiation.

Witkin's review of FD and psychopathology noted that field dependent people experiencing psychological dysfunctions tend to be hysterical (Zukman, 1957), inadequate personalities, alcoholics, suffering from severe identity problems, and somatize psychological difficulties. Field independent people are more frequently diagnosed paranoid (Janucci, 1964) and obsessive-compulsive (Zukman, 1957). Taylor (1956) observed that psychotics who hallucinate tend to be FD, whereas FI psychotics are more likely to
suffer from delusional systems. Taylor interpreted this to mean that FI people are more concerned about maintaining ego integrity since delusions have a logical structure and more frequently differentiate between self and nonself. Hallucinations represent a breakdown of ego integrity and a breakdown of the boundaries separating self from nonself.

Several studies have related FD to depression. Crouppen (1977) examined relative proneness to shame and guilt among non-depressed and depressed males. Crouppen hypothesized that FD depressed males would be more prone to shame and hostility directed towards the self, whereas FI depressed males would be more prone to guilt and hostility turned against others (see Witkin, Lewis & Weil, 1968). He found that FD depressed males were more prone to shame than were FD normals, FI depressives, and FI normals. Field-independent depressed males were more prone to guilt than were FI normals. FD depressives and normals tended to be intropunitive with their anger, whereas FI depressives and normals were extropunitive. According to Crouppen FD depressives think they cannot express their hostility because their anger is felt to be unjust. Regarding FD depressives, Crouppen stated: "It is their own deficiencies which caused the humiliation by the 'other', therefore, the other cannot be blamed" (p. 160). He thought that the FD shame depressions were also characterized by lower ego functioning, helplessness, illogical and confused thinking, and more affective demonstrativeness. Field independent guilt depression represented
conflict between the ego and a punitive superego. This could mean that the extropunitive hostility of the FI depressives is aimed at those others viewed as oppressors who are held responsible for the troubles of the depressive. Croupen stated that FD guilt depressions are characterized by obsessive thoughts, isolation of affect, and a more advanced ego development.

Wolf (1975) exposed FD and FI subjects to words of elation and depression under experimental conditions designed to encourage or suppress objective self-awareness. Objective self-awareness is a self-evaluation awareness when the individual is aware of their cognitive state and personal history. The opposite of this state would be an acute awareness of the external environment. Objective self-awareness paralleled the field theory concept of sense of separate identity and increased differentiation psychological states associated with field independence. Low objective self-awareness and increased sensitivity to the environment would be expected with FD people. Wolfe hypothesized that the external situation would exert less influence under objective self-awareness conditions; that FI subjects would have decreased mood responsiveness to the external situation; and FI people would be less influenced by the situation regardless of external cues of self-awareness, and the FI subjects would be more responsive to mood cues with less objective self-awareness. Wolfe gained little support for his hypothesis, and in fact some predictions were confirmed as the opposite direction. He found FD subjects not as
susceptible to environmental influences as would be expected, and the expected insensitivity to environmental cues by FI subjects did not occur. FI subjects showed more optimism and self-esteem than FD subjects after elation mood induction. The opposite effect occurred following depression mood induction.

It would appear then that FI and FD depressives are equally sensitive to environmental cues that may promote depression. The interpersonal form the depressive features assumes, however, may reflect the method the individual uses to express hostility. The intropunitive and extropunitive modes of hostile expression serve to fulfill the interpersonal needs of the depressive. The FD depressive hostility must be turned inwards so as not to disrupt the needed and desired external referents. The FI depressive helps maintain a sense of separate identity by extropunitive expressions of hostility. The extropunitive expression of hostility fits with some depressives' paranoid features and use of projection as a defense (Bonime, 1962).

That FD and FI depressives undergo the same phenomenology but differ only in style of expression appeared substantiated by Cooper and Lyle (1977). They administered Cattell's 16PF to FD and FI subjects. They hypothesized that factor A (sociable versus reserved), factor F (cheerful versus depressed) and factor Q2 (self-sufficient and makes own decisions versus group bound) would discriminate the FD and FI subjects. Cooper and Lyle suspected that the FD subjects would score as more sociable, cheerful and
group bound on the three factors. Their results confirmed the
hypotheses. They also reported that factor A was most important in
discriminating and factor Q2 the least. Field dependency was
determined by Oltman's Portable Rod and Frame Test.

Rosecrans and Sutterer (1969) administered the MMPI and the
Gottschaldt Embedded Figures Test, as adapted by Thurstone, to
psychiatric outpatients. The two groups, high embedded figures
performers and low embedded figures performers, were controlled for
IQ. There were no significant differences between the groups,
although both groups had significant MMPI elevations on scales 2,
4, 7, and 8 there was no support for hysteroid or obsessive-
compulsive disorders that field theory would predict for FD or FI
patients, respectively. Rosecrans and Sutterer concluded that FD
and FI "do not seem to relate specifically to diagnostic
categorizing so much as to stylized behaviors expressed in
particular symptoms" (p. 259).

It should be noted that Cattell's factor F-, the depressed
factor, reflects behaviors of people who are introspective and
oriented away from people. It does not indicate that all people
who fall in this range are depressed, or that only FI people become
depressed. What it indicated instead, was what style depressive
features will assume in FD and FI people. This seems especially so
if the Rosecrans and Sutterer study is considered. Their results
are consistent with those of Witkin et al. (1962) and indicated
that FI and FD people are equally susceptible to depression. It is
assumed, therefore, that depression represents a secondary type of psychological disorder, at least as far as field theory is concerned. Since depression does not appear to be strongly related to either FD or FI, its expression is probably tied to other variables unique to FD and FI. The evidence suggests that the variables influencing depressive expression are related to interpersonal orientation and less likely to methods of dealing with hostility towards self and others.

Summary

Leary's (1979) study on self-presentational styles has interesting implications for the study of field dependency and depressive interpersonal behavior. A self-presentational model suggests that interpersonal behavior is purposive in its aim and intent. It is the conscious or unconscious intent of the actor to manipulate the behavior of others to align with the actor's desire of how those others should behave. Perhaps more importantly it is the actor's attempt to shape the perceptions that others have of the actor. This is most certainly what Bonime had in mind when he referred to the manipulative style of the depressive. The depressive attempts to manipulate the thoughts, feelings, and overt behavior of other people in a direction consistent with their desire to control and influence others.

The key word is intent. What is the depressive's intent towards others? How might FD-FI help explain the intentionality of
the depressive's interpersonal behavior? If the FD and FI interpersonal styles had to be summarized briefly, it would be accurate to say that the FD person is supposed to be interested in people, outgoing, and concerned about others. The FI person would be described as analytical, impersonal, and unconcerned about social interaction. When depressed it would be reasonable to expect an exaggeration of the characteristics. Thus, Crouppen's findings that FD depressives are more prone to shame and turn anger inwards could be interpreted to mean that FD depressives turn anger against themselves rather than others to avoid damaging relationships. Their experience of shame could be a defensive maneuver to assess blame to themselves and thereby avoid questioning or experiencing anger towards another. Field independent depressives' willingness to direct anger against others would fit with their supposed interpersonal indifference. Their feelings of guilt could be interpreted to mean that they suffer over the possible harm they have done others; a possible acknowledgement of their indifference to others.

Such interpretations seem unreasonable and premature. The literature on FD-FI interpersonal styles is replete with descriptions of behavior and short on why those behaviors occur. In addition, there have been enough contradictions in findings to lead Nisbett and Temoshok (1976) to argue that investigators of cognitive style may only be measuring perceptual and perceptual-motor skills and nothing more.
What does seem reasonable is that investigations be conducted beyond a descriptive level and that it not rely exclusively upon the Witkin et al. theory of differentiation to account for differences in behavior between FD and FI people. An alternative framework to investigate field dependency, especially in the interpersonal realm, is with the self-presentational model. The major advantage of this model is that by conceptualizing overt and covert interpersonal behaviors as self-presentational allows for inferences to be hypothesized regarding a person's intentions towards other people.

The present study will attempt to do just that: to determine if FD and FI depressives differ in their intent and thought to significant interpersonal relationships. If they do, the FD-FI cognitive style may prove useful in diagnosing and treating depression.
CHAPTER III

DESIGN OF THE STUDY

Depression can be present as an interpersonal disorder that significantly affects the lives of the depressive and those other people with whom he or she interacts. However, little has been done to develop a conceptual model of the depressives' interpersonal behaviors. This study was designed to investigate depressives' interpersonal orientations as related to field dependence-independence.

Subjects

Subjects were 113 undergraduate students, 90 females and 23 males, at a large state university. The majority of the subjects were volunteers from introductory psychology courses who participated to earn extra credit in the course. The remaining subjects were selected from students seeking counseling services from the university counseling center. In Table 1 may be found the number of females and male subjects in each category of cognitive style and depression level.

Procedure

All subjects completed a test battery consisting of the Beck Depression Inventory (BDI), the Group Embedded Figures Test (GEFT),
Table 1

Number of Female and Male Subjects Assigned to Each Category of Cognitive Style and Depression Level

<table>
<thead>
<tr>
<th>Cognitive Style</th>
<th>Depression Level</th>
<th>Female</th>
<th>Male</th>
</tr>
</thead>
<tbody>
<tr>
<td>Field Dependent</td>
<td>Nondepressed</td>
<td>30</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>Mildly depressed</td>
<td>13</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Moderately depressed</td>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td>Field Independent</td>
<td>Nondepressed</td>
<td>24</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Mildly depressed</td>
<td>9</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Moderately depressed</td>
<td>7</td>
<td>1</td>
</tr>
</tbody>
</table>

and the Interpersonal Check List (ICL). The tests were administered in the order mentioned and required one hour to one and one-half hours to complete.

Students who requested counseling services were routinely asked to participate in a research project (Appendix A). Those who agreed were administered the BDI at that time. If their BDI score was in the depressed range as indicated by a score of 10 or higher on the BDI, a time was scheduled for them to complete the GEFT and ICL. The remainder of the testing was completed prior to their beginning counseling to avoid possible counseling influences on ICL.
scores. The psychology course subjects were scheduled to complete the test battery at one sitting. The order of test administration was the BDI, followed by the GEFT, followed by the ICL. The test battery was administered to individuals and small groups. The subjects were given a brief description of the study prior to testing and were informed of their rights as research subjects (Appendix B).

On the ICL the subjects were asked to record their responses to five interpersonal relationships (Appendix C & D) on a separate five column mark-sense sheet.

**Instruments**

The Beck Depression Inventory (BDI) (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961) is a self-administered instrument consisting of twenty-one items, each measuring a symptom or attitude of depression. Each item contains four evaluative statements differing in severity about the symptoms or attitudes. The subject may endorse each item with scores of "0" (neutral) to a score of "3" (severe). Cutting scores have been established by Beck for rating severity of depression; 0-9 not depressed; 10-15 mildly depressed; 16-23 moderately depressed; and 24-63 severely depressed.

Evaluations of internal consistency have shown that the test is reliable. Internal consistency determined by the split-half reliability yielded a Pearson r of .86; the Spearman-Brown correction increased the correlation coefficient to .93. In a different
procedure, the Kruskal-Wallis Non-Parametric Analysis of Variance showed that total score on the BDI had a significant relationship beyond .001 level of significance for all categories of the test except weight loss which was significant at the .01 level (Beck, et al., 1961).

Validity studies correlating the BDI with clinical judgement of depth of depression resulted in Pearson biserial correlation coefficients of .65 and .67 for two different patient samples (Beck et al., 1961). Beck (1967) cited several studies as evidence of acceptable construct validity of the BDI. The BDI has been used as a criterion measure for depression in well over 100 published studies (Beck & Beck, 1972).

Hammend (1980) noted that the majority of depression studies utilize college students as subjects and use the BDI as the screening instrument. Hammend expressed concern that the extreme reliance on college students as subjects and the extensive use of the BDI as the criterion measure might limit generalizability of such studies. Hammend compared the BDI with the Hamilton Rating Scale for Depression and the Research Diagnostic Criteria for Affective Disorders to explore the characteristics of moderately depressed college students. On initial interview with 34 subjects she found acceptable congruence between BDI and Hamilton scores in detecting moderate depression. A six-month follow-up with 28 of the subjects, however, revealed that 79% were no longer moderately depressed, and 53% scored in the non-depressed range of the BDI.
Hammend concluded that the BDI is a valid instrument for assessing severity of depression, but not for differentiating stable and unstable depressions in college students. Bumberry, Oliver, and McClure (1978) have also expressed concern about the stability of the depressive state the inventory measures.

The Group Embedded Figures Test (GEFT: Witkin, Oltman, Raskin, & Karp, 1971) is a perceptual test. The subject's task is to locate a simple design that is embedded within a larger complex design. For each complex design the subject is informed which simple design is to be located. The simple designs are located on the back cover of the test booklet so that the subject cannot view the simple and complex designs simultaneously. However, the subject may refer to the simple design as often as desired during the test. The GEFT is divided into three sections. The first section consists of seven simple designs and orients the subject to the task. The second and third sections each contain nine difficult designs. The score is the number of simple designs correctly traced in the second and third sections. The subject is given two minutes to complete the first section and five minutes each to complete the second and third sections.

The GEFT was designed for a setting where it was impractical to use the individually administered Embedded Figures Test (EFT).

Correlation between the EFT and GEFT are moderately high. Correlations of \( r = .83 \) were obtained with a sample of 73 male undergraduates, and \( r = .63 \) for 68 female undergraduates. The
correlations are negative because the tests are scored in reverse fashion. Since the GEFT is a speed test, reliability was estimated as the correlation between parallel forms with the same time limits. Correlations between the first nine item section and the second nine item section was .82, after correction with the Spearman-Brown prophecy formula, for males (N=80) and females (N=97) (Witkin, et al., 1971).

The Interpersonal Check List (ICL: LaForge & Suczek, 1955) consists of 134 adjectives and statements that describe interpersonal relationships (Appendix D). Only 128 items are used for research purposes. Subjects complete the ICL endorsing those items that are characteristics of the individual the subject has been asked to describe. Generally, subjects are asked to describe several interpersonal relationships, completing the ICL for each individual relationship. The subjects are asked to complete the ICL for one person at a time and are discouraged from describing all specified relationships concurrently.

The interpersonal orientations measured by the ICL were identified by LaForge, Naboisek, Coffey, and Freedman (1951). These are shown in Figure 1. The behaviors are arranged in circumplex; a circular arrangement of interpersonal behaviors. The spatial arrangement of the interpersonal behavior in the circumplex reflects their natural relationship in the interpersonal behavior of people. The farther the behavior is located from the center of
Figure 1

Interpersonal Behavior Circumplex.

From: Leary, T. Interpersonal Diagnosis of Personality. p.65.
the circumplex the more intense is its expression. The inter­
personal dimensions love versus hate, and dominance versus sub­
mission can be superimposed over the circumplex (Figure 2). Leary
stated that these two dimensions are the major influences of
interpersonal behavior.

Eight adjectives and statements are used to measure the
subject's strength and intensity in each of the sixteen inter­
personal orientations. Of the eight items measuring each inter­
personal area, one item measures "intensity one" behaviors (a mild
or necessary amount of the interpersonal behavior being measured),
three items measure "intensity two" behaviors (a moderate or
appropriate amount of the behavior), three items measure "intensity
three" behaviors (an inappropriately high amount), and one item
measures "intensity four" behaviors (an extreme amount of the
behavior). Thus, the ICL provides a measure of different
interpersonal behaviors, as well as estimates of the strength of
the appropriate expression of the behaviors.

LaForge et al. (1951) presumed that the personality of a
person could be divided into three levels: the public, the
conscious, and the private. The ICL can measure each level by
varying the instruction given the subject about completing the
test. Level II, the interpersonal interaction level, is assessed
by requiring the subject to describe their own and other inter­
personal behavior (LaForge, 1977). This study will only analyze
the interpersonal events occurring at Level II.
Figure 2

DOMINANCE

HATE

COMPETITIVE-MACHISSTIC
MANAGERIAL-ATOCRATIC

ECSTASY, ACT PROUD, HUMILIATORY EXHIBITIONISTIC
DOMINATE, BOSS, ORDER
SEeks FEEDBACK, FEEDBACK, DYNAMIC ACTIONS

RESPECTFUL-HYPERSONAL

REPRESSIVE, UNEXPRESSION OF ACTIONS

SELF-DESTRUCTING, SUBMISSIVE, COVENNATIONAL

SUBMISSIVENESS

LOVE

From: Leary, T. Interpersonal Diagnosis of Personality. Adapted from figure p.65.

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Scores can be obtained for each of the sixteen interpersonal orientations and four summary scores: number of items checks (NIC), average intensity (AIN), love (LOV), and dominance (DOM). The LOV and DOM scores directly measure interpersonal content. NIC can serve as a measure of acquiescence, and response style and set (LaForge, 1977). AIN measures the intensity of the criticism of the person being described. In this study, the four summary scores will be obtained for the subjects' rating of their own interpersonal behavior, for a person they strongly like or love, for a person they strongly dislike or hate, for a person the subject is able to dominate, and for a person who can dominate the subject. These relationships parallel Leary's interpersonal dimensions.

LOV and DOM are the summary scores for the interpersonal dimensions of love-hate and the dominance-submission. A positive (+) score on LOV represents a score in the love range of that dimension. A negative (-) score indicates a score in the hate range. Similarly, a positive score on DOM indicates dominance and a negative score indicates submissiveness. The higher the score the more intense the interpersonal dimension being measured.

Test-retest reliability correlations averaged .73, with a range of .64 to .83 for the sixteen variables, for a sample of 77 obese women retested after a two week interval (LaForge & Suczek, 1955). LaForge (1977) reported that the test-retest correlations ranged from .64 to .77 for each of the sixteen interpersonal behaviors for a sample of 50 college students. The summary scores,
AIN, DOM, and LOV showed test-retest reliability coefficients of .71, .75, and .71. The ICL was administered at the beginning and end of a summer work experience for the students.

The content validity of the ICL is well established. The sixteen interpersonal variables of the ICL were identified by Leary (1957), who used clinical observations, clinical interviews, and objective and projective testing to validate the existence of the variables. The ICL has undergone four revisions. LaForge and Suczek have provided ample evidence for the content validity of the ICL. LaForge (1977) summarized the results of studies comparing the ICL with form A and B of the 16PF (1956-57 edition) and with the Minnesota Multiphasic Personality Inventory. Significant correlations in the expected directions were found in both case studies thereby adding to the construct validity of the ICL.

The cut-off scores used for the ICL were 0-11 for FD and 12-18 for FI.

**Statistics**

The data were initially analyzed using a three way analysis of variance for each of the four dependent variables; AIN, DOM, LOV, and NIC. The independent variables were CS, D, and R.

Whenever a significant CS x D x R interaction was observed, a two way analysis of variance (CS x D) was performed for each relationship. Usually, when a two way interaction was significant, appropriate one way analyses of variance were performed. When a
main effect was observed to be significant, Sheffe' tests were utilized to test the significance of the differences between group means taken two at a time. The .05 level of significance was used for all statistical analyses.
CHAPTER IV

RESULTS

In this chapter may be found a review and levels of the independent variables, and the results concerning each of the dependent variables AIN, DOM, LOV, and NIC. The level of significance used for all statistical tests was .05.

Review and Levels of Independent Variables

The three independent variables are cognitive style (CS), levels of depression (D), and interpersonal relationship (R). The levels of CS are field dependence (FD) and field independence (FI). The levels of depression are nondepressed, mildly depressed, and moderately depressed. The levels of R are self (SE), someone strongly liked or loved (LLO), and someone strongly disliked or hated (DIH), someone the subject can dominate (CD), and someone who can dominate the subject (CDR).

Results for AIN

In Table 2 may be found AIN means for each combination of CS, D, and R. In Table 3 may be found an analysis of variance summary for the AIN scores. The F ratios for the CS x D x R interaction and the R main effect are statistically significant at or beyond the .05 level. Thus, among other possible decisions, the
<table>
<thead>
<tr>
<th>Interpersonal Relationship</th>
<th>SE</th>
<th>ILLO</th>
<th>DIH</th>
<th>CD</th>
<th>CDR</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Level of Depression</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nondepressed</td>
<td>FD</td>
<td>FI</td>
<td>FD</td>
<td>FI</td>
<td>FD</td>
</tr>
<tr>
<td></td>
<td>1.94</td>
<td>1.95</td>
<td>1.95</td>
<td>2.02</td>
<td>2.61</td>
</tr>
<tr>
<td>Mildly Depressed</td>
<td>FD</td>
<td>FI</td>
<td>FD</td>
<td>FI</td>
<td>FD</td>
</tr>
<tr>
<td></td>
<td>2.04</td>
<td>2.07</td>
<td>2.04</td>
<td>2.12</td>
<td>2.70</td>
</tr>
<tr>
<td>Moderately Depressed</td>
<td>FD</td>
<td>FI</td>
<td>FD</td>
<td>FI</td>
<td>FD</td>
</tr>
<tr>
<td></td>
<td>2.15</td>
<td>2.04</td>
<td>2.14</td>
<td>1.98</td>
<td>2.54</td>
</tr>
</tbody>
</table>
Table 3

Analysis of Variance Summary Table
for AIN Scores

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>ms</th>
<th>F value</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS</td>
<td>1</td>
<td>.17</td>
<td>2.04</td>
<td>.156</td>
</tr>
<tr>
<td>D</td>
<td>2</td>
<td>.16</td>
<td>1.97</td>
<td>.144</td>
</tr>
<tr>
<td>CS x D</td>
<td>2</td>
<td>.04</td>
<td>.54</td>
<td>.586</td>
</tr>
<tr>
<td>Error (B)</td>
<td>107</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R</td>
<td>4</td>
<td>4.29</td>
<td>103.00</td>
<td>.000*</td>
</tr>
<tr>
<td>R x CS</td>
<td>4</td>
<td>.02</td>
<td>.49</td>
<td>.741</td>
</tr>
<tr>
<td>R x D</td>
<td>8</td>
<td>.05</td>
<td>1.38</td>
<td>.205</td>
</tr>
<tr>
<td>R x CS x D</td>
<td>8</td>
<td>.09</td>
<td>2.23</td>
<td>.025*</td>
</tr>
<tr>
<td>Error (W)</td>
<td>428</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

statistical hypothesis of a CS x D x R interaction was rejected. Since the CS x D x R interaction analysis was concluded CS x D analyses of variance were performed for each category of R.

Each of the CS x D analyses of variance resulted in nonsignificant F ratios for the two way interactions. The only significant F ratios obtained were for the SE and DIH categories of relationships. These results may be found in Tables 4 and 5. In both
cases this significant F ratio related to the main depression
effect. Thus, for relationships SE and LILO the statistical hypo­
theses of a depression level differences were rejected.

Table 4
Analysis of Variance Summary Table for AIN Scores
for Relationship SE

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>ms</th>
<th>F value</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS</td>
<td>1</td>
<td>.01</td>
<td>.51</td>
<td>.478</td>
</tr>
<tr>
<td>D</td>
<td>2</td>
<td>.21</td>
<td>10.19</td>
<td>.000*</td>
</tr>
<tr>
<td>CS x D</td>
<td>2</td>
<td>.03</td>
<td>1.27</td>
<td>.286</td>
</tr>
<tr>
<td>Error</td>
<td>107</td>
<td>.02</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 5
Analysis of Variance Summary Table for AIN Scores
for Relationship LILO

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>ms</th>
<th>F value</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS</td>
<td>1</td>
<td>0.00</td>
<td>0.04</td>
<td>.838</td>
</tr>
<tr>
<td>D</td>
<td>2</td>
<td>0.10</td>
<td>3.20</td>
<td>.044*</td>
</tr>
<tr>
<td>CS x D</td>
<td>2</td>
<td>0.08</td>
<td>2.58</td>
<td>.080</td>
</tr>
<tr>
<td>Error (B)</td>
<td>107</td>
<td>.03</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
In both cases Scheffé tests were utilized to test the significance of the differences between group means taken two at a time. Summaries of these Scheffé tests may be found in Tables 6 and 7. For the SE relationship the AIN mean for the nondepressed group is significantly less than the means for the two remaining depression groups. For the LILO relationship none of the follow-up Scheffé tests was statistically significant. On the basis of these results the specific research hypothesis regarding AIN has not been verified.

Table 6
Depression Level Paired Means and Corresponding Scheffé Values for AIN Scores for Relationship SE

<table>
<thead>
<tr>
<th>Group</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nondepressed (ND)</td>
<td>1.94</td>
</tr>
<tr>
<td>Mildly Depressed (MID)</td>
<td>2.06</td>
</tr>
<tr>
<td>Moderately Depressed (MOD)</td>
<td>2.09</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Group</th>
<th>Paired Means</th>
<th>Difference</th>
<th>$F_{obt.}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>ND, MID</td>
<td>1.94, 2.06</td>
<td>-0.11</td>
<td>3.42*</td>
</tr>
<tr>
<td>ND, MOD</td>
<td>1.94, 2.09</td>
<td>-0.15</td>
<td>3.64*</td>
</tr>
<tr>
<td>MID, MOD</td>
<td>2.06, 2.09</td>
<td>-0.04</td>
<td>.12</td>
</tr>
</tbody>
</table>
### Table 7

**Depression Level Paired Means and Corresponding Scheffé Values for AIN Scores for Relationship LILO**

<table>
<thead>
<tr>
<th>Group</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nondepressed (ND)</td>
<td>1.98</td>
</tr>
<tr>
<td>Mildly Depressed (MID)</td>
<td>2.08</td>
</tr>
<tr>
<td>Moderately Depressed (MOD)</td>
<td>2.06</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Group</th>
<th>Paired Means</th>
<th>Difference</th>
<th>F_{obt.}</th>
</tr>
</thead>
<tbody>
<tr>
<td>ND, MID</td>
<td>1.98, 2.08</td>
<td>-0.09</td>
<td>2.32</td>
</tr>
<tr>
<td>ND, MOD</td>
<td>1.98, 2.06</td>
<td>-0.08</td>
<td>1.52</td>
</tr>
<tr>
<td>MID, MOD</td>
<td>2.08, 2.06</td>
<td>.02</td>
<td>.29</td>
</tr>
</tbody>
</table>

#### Results for DOM

In Table 8 may be found the DOM means for each combination of CS, D, and R. In Table 9 may be found an analysis of variance summary for the DOM scores. The F ratios for the CS \(\times D\) and \(D \times R\) interactions and the main CS and R effects are statistically significant at or beyond the .05 level. Thus, among other possible decisions, the statistical hypotheses of a CS \(\times D\) and a \(D \times R\) interaction were rejected. Since the CS \(\times D\) interaction was
Table 8

DOM Means for Each Combination of Cognitive Style, Level of Depression, and Interpersonal Relationship

<table>
<thead>
<tr>
<th>Interpersonal Relationship</th>
<th>SE</th>
<th>LILO</th>
<th>DIH</th>
<th>CD</th>
<th>CDR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognitive Style</td>
<td>FD</td>
<td>FI</td>
<td>FD</td>
<td>FI</td>
<td>FD</td>
</tr>
<tr>
<td>Level of Depression</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nondepressed</td>
<td>2.06</td>
<td>4.01</td>
<td>6.01</td>
<td>4.32</td>
<td>2.69</td>
</tr>
<tr>
<td>Mildly Depressed</td>
<td>-0.05</td>
<td>-2.84</td>
<td>6.77</td>
<td>2.42</td>
<td>7.43</td>
</tr>
</tbody>
</table>
concluded, one-way analyses of variance for cognitive style for each level of depression were performed. Since D x R interaction was concluded, one-way analyses of variance for depression level were performed for each category of R.

The CS x D interaction analysis of variance for the moderately depressed group resulted in a significant F ratio.
In Table 10 may be found an analysis of variance summary for the DOM sum scores for moderately depressed subjects. In Table 11 may be found the DOM means for each combination of CS and D. The FD moderately depressed group scored significantly higher on DOM than did the FI moderately depressed group.

Table 10

Analysis of Variance Summary Table for DOM Sum Scores for Moderately Depressed Subjects

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>ms</th>
<th>F value</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS</td>
<td>1</td>
<td>1873.83</td>
<td>5.58</td>
<td>.034*</td>
</tr>
<tr>
<td>Error</td>
<td>13</td>
<td>335.84</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 11

DOM Means for Each Combination of Cognitive Style and Depression Level

<table>
<thead>
<tr>
<th>Level of Depression</th>
<th>Cognitive Style</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nondepressed</td>
<td>FD</td>
</tr>
<tr>
<td>Mildly Depressed</td>
<td>3.23</td>
</tr>
<tr>
<td>Moderately Depressed</td>
<td>3.29</td>
</tr>
</tbody>
</table>
The D x R interaction analysis of variance for relationship SE resulted in a significant F ratio. The results of this test may be found in Table 12. This significant F ratio related to the main depression effect. Thus, for relationship SE the statistical hypothesis of a depression level difference was rejected.

Table 12
Analysis of Variance Summary Table for DOM Scores for Relationship SE

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>ms</th>
<th>F value</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>D</td>
<td>2</td>
<td>660.14</td>
<td>14.89</td>
<td>.000*</td>
</tr>
<tr>
<td>Error</td>
<td>110</td>
<td>44.35</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Scheffe' tests were utilized to test the significance of the differences between the D group means taken two at a time. Summaries of these Scheffe' tests may be found in Table 13. For SE the DOM mean for the nondepressed group is significantly higher than for the mildly and moderately depressed groups. The DOM mean for the mildly depressed group is significantly higher than for the moderately depressed group.

On the basis of these results the specific research hypothesis for DOM is rejected.
Table 13

Depression Level Paired Means and Corresponding Scheffe' Values for DOM Scores for Relationship SE

<table>
<thead>
<tr>
<th>Group</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nondepressed (ND)</td>
<td>2.99</td>
</tr>
<tr>
<td>Mildly Depressed (MID)</td>
<td>-1.29</td>
</tr>
<tr>
<td>Moderately Depressed (MOD)</td>
<td>-6.79</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Group</th>
<th>Paired Means</th>
<th>Difference</th>
<th>F_{obt}</th>
</tr>
</thead>
<tbody>
<tr>
<td>ND, MID</td>
<td>2.99, -1.29</td>
<td>4.28</td>
<td>2.94*</td>
</tr>
<tr>
<td>ND, MOD</td>
<td>2.99, -6.79</td>
<td>9.78</td>
<td>5.17*</td>
</tr>
<tr>
<td>MID, MOD</td>
<td>-1.29, -6.79</td>
<td>5.50</td>
<td>2.56*</td>
</tr>
</tbody>
</table>

Results for LOV

In Table 14 may be found the LOV means for each combination CS, D, and R. In Table 15 may be found an analysis of variance summary for the LOV scores. The F ratio for the main R effect is statistically significant at or beyond the .05 level. On the basis of these results none of the global hypotheses or the specific research hypothesis can be retained. The Scheffé tests were utilized to test the significance of the differences between the R means taken two at a time.
Table 14

LOV Means for Each Combination of Cognitive Style, Level of Depression, and Interpersonal Relationship

<table>
<thead>
<tr>
<th>Interpersonal Relationship</th>
<th>SE</th>
<th>LILO</th>
<th>DIH</th>
<th>CD</th>
<th>CDR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognitive Style</td>
<td>FD</td>
<td>FI</td>
<td>FD</td>
<td>FI</td>
<td>FD</td>
</tr>
<tr>
<td>Mildly Depressed</td>
<td>5.35</td>
<td>5.07</td>
<td>6.11</td>
<td>1.47</td>
<td>-15.86</td>
</tr>
<tr>
<td>Moderately Depressed</td>
<td>4.04</td>
<td>0.81</td>
<td>-3.21</td>
<td>2.93</td>
<td>-3.63</td>
</tr>
</tbody>
</table>
## Table 15

Analysis of Variance Summary Table for LOV Scores

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>ms</th>
<th>F value</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS</td>
<td>1</td>
<td>.45</td>
<td>.01</td>
<td>.932</td>
</tr>
<tr>
<td>D</td>
<td>2</td>
<td>161.11</td>
<td>2.57</td>
<td>.081</td>
</tr>
<tr>
<td>CS x D</td>
<td>2</td>
<td>36.90</td>
<td>.59</td>
<td>.557</td>
</tr>
<tr>
<td>Error (B)</td>
<td>107</td>
<td>62.72</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R</td>
<td>4</td>
<td>4280.5</td>
<td>50.06</td>
<td>.000*</td>
</tr>
<tr>
<td>R x CS</td>
<td>4</td>
<td>32.72</td>
<td>.38</td>
<td>.821</td>
</tr>
<tr>
<td>R x D</td>
<td>8</td>
<td>124.90</td>
<td>1.46</td>
<td>.170</td>
</tr>
<tr>
<td>R x CS x D</td>
<td>8</td>
<td>161.89</td>
<td>1.89</td>
<td>.059</td>
</tr>
<tr>
<td>Error (W)</td>
<td>428</td>
<td>85.51</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Summaries of these Scheffe' tests may be found in Table 16. Statistically significant differences were obtained between all the relationships except SE and LILO. Overall, LOV scores were highest for CD, followed in turn by LILO and SE. The relationship DIH scored highest on the hate dimension of the LOV scale followed by CDR.
Table 16

Scheffé Values for Relationship Differences for LOV Scores

<table>
<thead>
<tr>
<th>Relationship</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>SE</td>
<td>3.76</td>
</tr>
<tr>
<td>LILO</td>
<td>4.65</td>
</tr>
<tr>
<td>DIH</td>
<td>-11.32</td>
</tr>
<tr>
<td>CD</td>
<td>9.77</td>
</tr>
<tr>
<td>CDR</td>
<td>-3.16</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Group</th>
<th>Difference</th>
<th>F_{obt.}</th>
</tr>
</thead>
<tbody>
<tr>
<td>SE, LILO</td>
<td>-0.89</td>
<td>.72</td>
</tr>
<tr>
<td>SE, DIH</td>
<td>15.09</td>
<td>12.26*</td>
</tr>
<tr>
<td>SE, CD</td>
<td>-6.01</td>
<td>4.88*</td>
</tr>
<tr>
<td>SE, CDR</td>
<td>6.92</td>
<td>5.63*</td>
</tr>
<tr>
<td>LILO, DIH</td>
<td>15.98</td>
<td>12.99*</td>
</tr>
<tr>
<td>LILO, CD</td>
<td>-5.12</td>
<td>4.16*</td>
</tr>
<tr>
<td>LILO, CDR</td>
<td>7.81</td>
<td>6.35*</td>
</tr>
<tr>
<td>DIH, CD</td>
<td>21.09</td>
<td>17.15*</td>
</tr>
<tr>
<td>DIH, CDR</td>
<td>-8.16</td>
<td>6.64*</td>
</tr>
<tr>
<td>CD, CDR</td>
<td>12.93</td>
<td>10.51*</td>
</tr>
</tbody>
</table>
Results for NIC

In Table 17 may be found the NIC means for each combination of CS, D, and R. In Table 18 may be found an analysis of variance summary for the NIC scores. The F ratio for the CS x D interaction and the main R effect are statistically significant at or beyond the .05 level. Thus, among other possible decisions, the statistical hypothesis of a CS x D interaction was rejected. Since the CS x D interaction was concluded, one way analyses of variance for cognitive style for each level of depression were performed.

A CS x D analysis of variance for the moderately depressed group resulted in a significant F ratio. This result may be found in Table 19. In Table 20 may be found the NIC means for each combination of CS and D. The FD moderately depressed group checked significantly more items than did the FI moderately depressed group.

Scheffe' tests were utilized to test the significance of the differences between group means taken two at a time for the main R effect. Summaries of these Scheffe' tests may be found in Table 21. Statistically significant differences were obtained for all comparisons except DIH and CD, and DC and DCR. The highest number of responses were made for relationship SE followed in order by LILO, CDR, CD, and DIH.

On the basis of these results the specific NIC research hypothesis was rejected.
### Table 17

AIN Means for Each Combination of Cognitive Style, Level of Depression, and Interpersonal Relationship

<table>
<thead>
<tr>
<th>Interpersonal Relationship</th>
<th>SE</th>
<th>LILO</th>
<th>DIH</th>
<th>CD</th>
<th>CDR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognitive Style</td>
<td>FD</td>
<td>FI</td>
<td>FD</td>
<td>FI</td>
<td>FD</td>
</tr>
<tr>
<td>Nondepressed</td>
<td>50.62</td>
<td>53.06</td>
<td>46.32</td>
<td>51.00</td>
<td>40.16</td>
</tr>
<tr>
<td>Mildly Depressed</td>
<td>58.33</td>
<td>57.92</td>
<td>51.87</td>
<td>50.92</td>
<td>40.60</td>
</tr>
<tr>
<td>Moderately Depressed</td>
<td>64.71</td>
<td>48.75</td>
<td>55.14</td>
<td>41.25</td>
<td>50.00</td>
</tr>
</tbody>
</table>
### Table 18

**Analysis of Variance Summary Table**

for NIC Scores

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>ms</th>
<th>F value</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS</td>
<td>1</td>
<td>729.63</td>
<td>1.33</td>
<td>0.251</td>
</tr>
<tr>
<td>D</td>
<td>2</td>
<td>204.68</td>
<td>0.37</td>
<td>0.690</td>
</tr>
<tr>
<td>CS x D</td>
<td>2</td>
<td>2279.87</td>
<td>4.15</td>
<td>0.018*</td>
</tr>
<tr>
<td>Error (B)</td>
<td>107</td>
<td>548.80</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R</td>
<td>4</td>
<td>2652.39</td>
<td>28.30</td>
<td>0.000*</td>
</tr>
<tr>
<td>R x CS</td>
<td>4</td>
<td>149.95</td>
<td>1.60</td>
<td>0.173</td>
</tr>
<tr>
<td>R x D</td>
<td>8</td>
<td>145.25</td>
<td>1.55</td>
<td>0.138</td>
</tr>
<tr>
<td>R x CS x D</td>
<td>8</td>
<td>52.21</td>
<td>0.56</td>
<td>0.813</td>
</tr>
<tr>
<td>Error (W)</td>
<td>428</td>
<td>93.73</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 19
Analysis of Variance Summary Table for NIC Scores for Moderately Depressed Subjects

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>ms</th>
<th>F value</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS</td>
<td>1</td>
<td>18442.90</td>
<td>8.09</td>
<td>.014*</td>
</tr>
<tr>
<td>Error</td>
<td>13</td>
<td>2280.11</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 20
NIC Means for Each Combination of Cognitive Style and Depression Level

<table>
<thead>
<tr>
<th>Level of Depression</th>
<th>Cognitive Style</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>FD</td>
</tr>
<tr>
<td>Nondepressed</td>
<td>221.14</td>
</tr>
<tr>
<td>Mildly Depressed</td>
<td>228.67</td>
</tr>
<tr>
<td>Moderately Depressed</td>
<td>270.29</td>
</tr>
</tbody>
</table>

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Table 21

Scheffe Values for Relationship Differences for NIC Scores

<table>
<thead>
<tr>
<th>Relationship</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>SE</td>
<td>53.59</td>
</tr>
<tr>
<td>LILO</td>
<td>49.14</td>
</tr>
<tr>
<td>DIH</td>
<td>39.85</td>
</tr>
<tr>
<td>CD</td>
<td>42.65</td>
</tr>
<tr>
<td>CDR</td>
<td>44.73</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Group</th>
<th>Difference</th>
<th>F&lt;sub&gt;obt.&lt;/sub&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>SE, LILO</td>
<td>4.45</td>
<td>3.46*</td>
</tr>
<tr>
<td>SE, DIH</td>
<td>13.74</td>
<td>10.67*</td>
</tr>
<tr>
<td>SE, CD</td>
<td>10.94</td>
<td>8.49*</td>
</tr>
<tr>
<td>SE, CDR</td>
<td>8.87</td>
<td>6.88*</td>
</tr>
<tr>
<td>LILO, DIH</td>
<td>9.29</td>
<td>7.21*</td>
</tr>
<tr>
<td>LILO, CD</td>
<td>6.49</td>
<td>5.04*</td>
</tr>
<tr>
<td>LILO, CDR</td>
<td>4.42</td>
<td>3.43*</td>
</tr>
<tr>
<td>DIH, CD</td>
<td>-2.81</td>
<td>2.18</td>
</tr>
<tr>
<td>DIH, CDR</td>
<td>-4.88</td>
<td>3.79*</td>
</tr>
<tr>
<td>CD, CDR</td>
<td>-2.07</td>
<td>1.61</td>
</tr>
</tbody>
</table>

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CHAPTER V

DISCUSSION AND CONCLUSIONS

In this chapter may be found a discussion of the results for each of the dependent variables, conclusions, and limitations of the study and recommendations for further research.

Discussion of the Results for AIN

The research hypothesis of a CS x D x R interaction for AIN was retained in the initial analysis. However, further analyses of this interaction produced only one significant result, and that was for D differences for relationship SE. The failure of the observed triple interaction to produce any significant double interactions indicates that none of the double interactions was significant but varied from one another significantly enough to produce a triple interaction.

The positive result indicated that the nondepressed subjects scored lower in AIN than did the mildly and moderately depressed subjects for relationship SE. That AIN scores did not differ for the FD and FI subjects was an unexpected outcome. This finding leads to three interpretations. First, the FD and FI subjects may not differ in the extent to which they are self critical. This result may support Crouppen's (1977) finding that male FD depressives were prone to shame and male FI depressives were prone to
guilt. Although the mechanisms are different, both shame and guilt result from self blame. Thus, the FD and FI depressed subjects may reach the same destination regarding critical self perception, but may use different avenues for arriving there.

Second, the FD and FI subjects did not differ in their criticalness of other people. Thus, even though FI people are generally described as more impersonal than are FD people (Witkin & Goodenough, 1977), these behaviors do not necessarily mean that FI people are more critical of other people than are FD people. Third, the statistical tests used were low in power.

Discussion of the Results for DOM

The hypothesis of a CS x D interaction was retained for DOM. Cognitive style influenced DOM scores for the FD and FI moderately depressed subjects. The FD moderately depressed subjects scored higher on DOM than did the FI moderately depressed subjects. This was an unexpected result. However, a review of the DOM means in table 8 for each combination of CS, D, and R indicates that the result is in accord with FD-FI theory. Although R did not significantly interact with the CS x D interaction, large R mean differences were found between the FD and FI moderately depressed subjects. Specifically, the FD and FI groups did not differ on DOM scores for relationships SE and DIH. However, the FD moderately depressed subjects scored the people in relationships LILO, CD, and CDR much higher on DOM than did the FI moderately depressed
subjects. This would appear to support the impersonal description usually ascribed to FI people. The people in relationships LILO, CD, and CDR are ones in a position to influence the subject. By describing these people as less dominant the FI subjects may have been attempting to minimize the perceived influence these people might exert on him or her. The similarity of mean scores for relationship SE suggests that the two groups differ in their perception of dominance-submissiveness for others but not for themselves. The similarity of mean scores for relationship DIH may indicate that both groups perceive someone they dislike or hate in the same manner. This could indicate that both groups are equally adept at not allowing a DIH person to assume a position of dominance over them. Thus, the FD and FI moderately depressed subjects may differ in the extent they are willing to ascribe dominance characteristics to people who are in a position to influence them.

The research hypothesis of a D x R interaction was retained for relationship SE for DOM. Specifically, submissiveness increased as depression became more severe. This result indicates that FD and FI nondepressed and depressed subjects were similar in their dominance-submissiveness perception of self. It was anticipated that the FI depressed subjects would view themselves as more dominant than the FD depressed subjects as depression intensified. Thus, it appears that depression does not serve to intensify the dominance characteristics of the FD subjects, at least as far as they perceive themselves.
Discussion of the Results for LOV

No independent variable interactions were found for LOV scores. The CS x D x R interaction almost reached statistical significance, but since it did not, no further data analyses were performed. The single significant result was for the main R effect. The subjects assigned the highest LOV score to relationship CD, followed by LILO and SE. LOV scores in the hate range were assigned to CDR, and more severely to DIH.

Cognitive style differences were anticipated for LOV scores. This seemed especially likely since FD people are generally described as being more interested and attracted to other people than are FI people. The failure of LOV to discern between the FD and FI subjects suggests that both groups are similar in their feelings of like and dislike for themselves and others. Croupen reported that anger is expressed intrapunitively by FD depressives and extrapunitively by FI depressives. It may be that observations of this sort have reinforced the personal and impersonal labels given to FD and FI people. Similarly, Witkin and Goodenough concluded that FI people promote more emotional distance from others than do FD people. This may be accurate, but the absence of positive results for the LOV hypotheses forces the consideration that FD and FI people do not differ in their feelings of love and hate, but possibly in their expression of these feelings.
Support for the research hypothesis of a CS x D interaction was retained for NIC. The FI moderately depressed subjects provided fewer responses in their descriptions of the relationships than did the FD moderately depressed subjects. This result was expected.

LaForge (1976) stated that the NIC score could be interpreted as a sign of cooperativeness to the task and acquiescence. This interpretation of NIC is compatible with the cooperative description given to FD people. NIC can also be interpreted within the global-articulate dimension of FD-FI theory. Field dependent people are described as having a global cognitive style. The higher number of responses provided by the FD moderately depressed group suggests that they needed or desired to use more items to satisfactorily describe the relationships. The FI moderately depressed subjects may have used fewer items because they were more adept at defining the relationships in more exact terms as would be expected by someone with an articulated style of thinking. An alternative interpretation is that the FI group was more uncooperative regarding the task. This would substantiate their impersonal description.

Significant R differences existed for NIC scores. The subjects used the highest number of items to describe relationship SE, followed by LIL0, CDR, CD, and DIH. This could be interpreted to mean that the subjects were more differentiated in their
thoughts regarding themselves and someone they liked or loved than they were for someone they disliked or hated.

Conclusions

Based on the results presented in an earlier chapter, the following conclusions are made.

(1) The CS x D interaction for AIN varies by level of R.

(2) For relationship SE both mildly and moderately depressed subjects score higher on AIN than do nondepressed subjects.

(3) Field dependent moderately depressed subjects score higher on DOM than do FI moderately depressed subjects.

(4) For relationship SE nondepressed subjects score higher on DOM than do mildly depressed subjects, who score higher on DOM than do moderately depressed subjects.

(5) Subjects score higher on LOV for the CD relationship than for LILO, which is scored higher than SE, which is scored higher than CDR, which is scored higher than the DIH relationship.

(6) Field dependent moderately depressed subjects score higher on NIC than do FI moderately depressed subjects.

(7) Subjects score higher on NIC for the SE relationship than for LILO, which is scored higher than CDR, which is scored higher than CD, which is scored higher than the DIH relationship.
Limitations and Recommendations

Although little support was found for the research hypotheses this does not necessarily mean that these hypotheses are false. There were several limitations in the study that could have prevented the hypothesized and other variable interactions from achieving statistical significance. These limitations will be presented along with recommendations for future research.

(1) Although an ample number of nondepressed subjects were included in the study, the number of depressed subjects was small and an unequal number of subjects was assigned to the six groups. It is recommended that future studies investigating the same or similar questions increase the size of the depressed groups and assign an equal number of subjects to each group.

(2) The subject's raw scores on the BDI and GEFT were converted to discrete scores for assigning subjects to a group. Converting relatively continuous scores to discrete scores decreased the precision of the measurement which no doubt reduced the probability for detecting interactions. It is recommended that future researchers employ statistical procedures that allow the analysis of scales which consist of a large number of points.

(3) Further related to limitation number two, the subjects were assigned to either a FD or FI group by a single cut-off score on the GEFT. It is quite probably that this resulted in some of the subjects in one group being more similar to some of the subjects in another group than they were to members of their own
group. It is recommended that only subjects with extreme FD and FI scores be accepted as research subjects. If this is unacceptable, then three groups could be formed; high FD, high FI, and FD and FI subjects with low and moderate scores.

(4) The use of an analysis of variance design limited the study since it did not allow the examination of all possible variable combinations. It is recommended that a research design that permits the examination of all variables simultaneously be used in future studies.

(5) There were far more female subjects than male subjects in the study. Although FD-FI theory takes the position that FD and FI is not sexually biased, the possibility of a sexual bias in the results should not be dismissed since FD-FI was not investigated in isolation, but in conjunction with depression and interpersonal orientation. It is recommended that future studies use an equal number of female and male subjects for each research group to minimize possible sex differences, and if deemed important, to compare female and male scores.

(6) The statistical tests used in this study were conservative and therefore low in their power to detect possible variable interaction. It is recommended that future researchers utilize statistical tests that would avoid this limitation.
Appendix A

You are invited to participate in a research study being conducted by a senior staff member of the Student Counseling Center. This research is being conducted for educational purposes and is not a Student Counseling Center Project.

This research study is being conducted to get a better idea of the interpersonal behaviors of people who are feeling depressed. Another purpose of this research study is to determine if a depressed person's perceptual style influences their interpersonal behavior. In order to answer these questions, all people in the study will be requested to complete three tests; one measuring depth of depression; one measuring perceptual style; and one measuring interpersonal orientations.

Your participation in this study is entirely voluntary. If you decide to participate your test results will be entirely confidential. If you would like, the test results can be given to your counselor here at the center. You can withdraw from the study at any time, if you wish.

If you decide to participate in the study please turn to the next page and sign the informed consent sheet. After doing so please complete the Beck Inventory. Finally, a schedule is provided that indicates convenient times to complete the testing. Please indicate which time is convenient for you. If none are, please list times that are convenient to you. The additional testing should required no more than 50 to 70 minutes of your time. Whether or not you choose to participate in this study, please return these material to the receptionist.

Thank you for your cooperation.

Rick Sulier
50 De Garmo
438-3655
APPENDIX B

SUBJECT RIGHTS STATEMENT

PLEASE READ THE FOLLOWING STATEMENT CAREFULLY, AND SIGN YOUR NAME BELOW ONLY WHEN YOU FULLY UNDERSTAND YOUR RIGHTS. Your signature is required for participation.

"The policy of the Department of Psychology is that all research participation in the Department is voluntary, and you have the right to withdraw at any time, without prejudice, should you object to the nature of the research. You should also know that your responses are confidential. Any report of data collected will be in summary form, without identifying individuals."
Appendix C

Instructions

Here is the Interpersonal Checklist, a list of words and phrases which describe the ways people may behave in relation to one another. Your task is to record your descriptions about five different relationships, including yourself. The accompanying answer sheet has five columns. Each column refers to a different relationship as listed below:

- **Column A:** Yourself
- **B:** Someone you strongly like or love
- **C:** Someone you strongly dislike or hate
- **D:** Someone you are able to dominate
- **E:** Someone you think is able to dominate you

First, go through the list; when an item describes you, fill in the circle, after the number of that item. If an item does not describe you, leave the space on the answer sheet blank. For example, the first phrase is "Able to be strict," (number 1 on the list of items). If you believe you are able to be strict, fill in the space in the first column of the answer sheet after the number "1". If you believe you are not able to be strict, leave the space blank. Then do the same for item number 2 and the following items. You first impression is best; so go through the list as quickly as you can, making a mark when the word or phrase seems to describe you, leaving it blank when it does not.

After you have gone through the entire list, describing yourself, return to the beginning and describe someone you strongly like or love in the same way. This time, however, make each mark in column 2. Place a mark in the second column of the answer sheet after the number of every phrase that describes someone you strongly like or love; leave the space blank after the number of every phrase which does not describe them. Again, work rapidly; simply record your own opinion.

Now use the third column to describe someone you strongly dislike or hate. The fourth column is for your description of someone you are able to dominate. The fifth column is for your description of someone you think is able to dominate you.

From: LaForge, R.  *Using the ICL*, 1976.
Appendix D

INTERPERSONAL CHECK LIST

1 Able to give orders
2 Appreciative
3 Apologetic
4 Able to take care of self
5 Accepts advice readily
6 Able to doubt others
7 Affectionate and understanding
8 Acts important
9 Able to criticize self
10 Admires and imitates others
11 Agrees with everyone
12 Always ashamed of self
13 Very anxious to be approved of
14 Always giving advice
15 Bitter
16 Bighearted and unselfish
17 Boastful
18 Businesslike
19 Bossy
20 Can be frank and honest
21 Clinging vine
22 Can be strict if necessary
23 Considerate
24 Cold and unfeeling
25 Can complain if necessary
26 Cooperative
27 Complaining
28 Can be indifferent to others
29 Critical of others
30 Can be obedient
31 Cruel and unkind
32 Dependent
33 Dictatorial
34 Distrusts everybody
35 Dominating
36 Easily embarrassed
37 Eager to get along with others
38 Easily fooled
39 Egotistical and conceited
40 Easily led
41 Encouraging others
42 Enjoys taking care of others
43 Expects everyone to admire him
44 Faithful follower
45 Frequently disappointed
46 Firm but just
47 Fond of everyone
48 Forceful
49 Friendly
50 Forgives anything
51 Frequently angry
52 Friendly all the time
53 Generous to a fault
54 Gives freely of self
55 Good leader
56 Grateful
57 Hard-boiled when necessary
58 Helpful
59 Hard-hearted
60 Hard to convince
61 Hot-tempered
62 Hard to impress
63 Impatient with others' mistakes
64 Independent
65 Irritable
66 Jealous
67 Kind and reassuring
68 Likes responsibility
69 Lacks self-confidence
70 Likes to compete with others
71 Lets other make decisions
72 Likes everybody
73 Likes to be taken care of
74 Loves everyone
75 Makes a good impression
76 Manages others
77 Meek
78 Modest
79 Hardly ever talks back
80 Often admired
81 Obeys too willingly
82 Often gloomy
83 Outspoken
84 Overprotective of others
85 Often unfriendly
86 Oversympathetic
87 Often helped by others
88 Passive and unaggressive
89 Proud and self-satisfied
90 Always pleasant and agreeable
91 Resentful
92 Respected by others
93 Rebels against everything
94 Resents being bossed
95 Self-reliant and assertive
96 Sarcastic
97 Self-punishing
98 Self-confident
99 Self-seeking
100 Shrewd and calculating
101 Self-respecting
102 Shy
103 Sincere and devoted to friends
104 Selfish
105 Skeptical
106 Sociable and neighborly
107 Slow to forgive a wrong
108 Somewhat snobbish
109 Spineless
110 Stern but fair
111 Spoils people with kindness
112 Straightforward and direct
113 Stubborn
114 Suspicious
115 Too easily influenced by friends
116 Thinks only of self
117 Tender and soft hearted
118 Timid
119 Too lenient with others
120 Touchy and easily hurt
121 Too willing to give to others
122 Tries to be too successful
123 Trusting and eager to please
124 Tries to comfort everyone
125 Usually gives in
126 Very respectful to authority
127 Wants everyone's love
128 Well thought of
129 Wants to be led
130 Will confide in anyone
131 Warm
132 Wants everyone to like him/her
133 Will believe anyone
134 Well-behaved

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