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Cognitive Clusters and the Phenomenology of Depression in Psychiatric Populations

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COGNITIVE CLUSTERS AND THE PHENOMENOLOGY
OF DEPRESSION IN PSYCHIATRIC
POPULATIONS

by

Steven A. Harris

A Dissertation
Submitted to the
Faculty of The Graduate College
in partial fulfillment
of the
Degree of Doctor of Education

Western Michigan University
Kalamazoo, Michigan
April 1979
ACKNOWLEDGEMENTS

Delineating those who contributed to the accomplishment of this task is rendered difficult by the magnitude of the number of people involved. Attempts to personally identify each of them would prove to be nearly as demanding as was the development and completion of this study. I would therefore like to extend my collective thanks and appreciation to all of those who provided the love, moral support, encouragement, advice, and direction which culminated in what I have experienced as a gratifying and successful educational endeavor.

Two people that are immediately brought to mind when speaking of the love and support necessitated by my academic pursuits are Earl and Amanda Harris, my parents. It is they who provided me with the resources required by such an undertaking as this. I refer not only to material things, but to their emotional and spiritual contributions as well. I am most sincere when I say that words cannot nearly express my gratitude to them, and to all of my family for their support.

My committee chairperson, Dr. Robert Hopkins, is also most deserving of thanks for his advice and assistance throughout both my master's and doctoral programs. His efforts, in conjunction with Drs. Robert Betz and Paul Mountjoy, have served to promote a keen interest in not only the results of this study, but in developing a greater understanding of human behavior in general. Rather than being satiated
by irrelevant demands and requirements and consequently disillusioned within my own professional field, I feel that they have been successful in providing me with sufficient knowledge and motivation to continue to perform in such a way as to promote personal satisfaction and professional growth and maturation. I thank them for the intellectual stimulation invoked within me.

It pleases me to mention Rick Sulier and Floyd Byerly, as they have provided me with friendship and shared personal intimacies in times of stress as well as times of joy.

Special thanks must also be accorded to Mike Stoline for his invaluable assistance in the statistical analysis of the data obtained in this study.

I would like to extend my appreciation to Jon McKay, who worked so diligently in the collection of data, as well as Tom Mull, Jack Boss, and again, Floyd Byerly. Ray Ignash is greatly appreciated for his help and expediency in typing, and Dodie Harley is to be commended for her efforts in typing the final copy.

Last but certainly not least, I would like to express my love and appreciation to my wife, Wendy, for the support, love, and understanding afforded me throughout this entire endeavor. Without her inspirational efforts, the completion of this task would have been tenuous.

Steven A. Harris

iv

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To my wife, Wendy
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COGNITIVE CLUSTERS AND THE PHENOMENOLOGY OF
DEPRESSION IN PSYCHIATRIC POPULATIONS.
WESTERN MICHIGAN UNIVERSITY, ED.D., 1979
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>CHAPTER</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>I INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>Suicide</td>
<td>3</td>
</tr>
<tr>
<td>Definition of Depression</td>
<td>7</td>
</tr>
<tr>
<td>Significance of the Problem</td>
<td>11</td>
</tr>
<tr>
<td>Statement of the Problem</td>
<td>12</td>
</tr>
<tr>
<td>Purpose of the Research</td>
<td>14</td>
</tr>
<tr>
<td>Rationale</td>
<td>16</td>
</tr>
<tr>
<td>Hypotheses</td>
<td>18</td>
</tr>
<tr>
<td>II REVIEW OF THE LITERATURE</td>
<td>20</td>
</tr>
<tr>
<td>Psychoanalytic Theory of Depression</td>
<td>20</td>
</tr>
<tr>
<td>Existential Theory of Depression</td>
<td>24</td>
</tr>
<tr>
<td>Pharmacological Theory of Depression</td>
<td>25</td>
</tr>
<tr>
<td>Behavioral Theory of Depression</td>
<td>27</td>
</tr>
<tr>
<td>Cognitive Theory of Depression</td>
<td>31</td>
</tr>
<tr>
<td>III METHODOLOGY</td>
<td>44</td>
</tr>
<tr>
<td>Subjects</td>
<td>44</td>
</tr>
<tr>
<td>Test Instruments</td>
<td>46</td>
</tr>
<tr>
<td>Procedures of Data Collection</td>
<td>52</td>
</tr>
<tr>
<td>Statistical Analysis</td>
<td>55</td>
</tr>
<tr>
<td>IV RESULTS</td>
<td>59</td>
</tr>
</tbody>
</table>

v

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<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>DISCUSSION AND IMPLICATIONS</td>
<td>78</td>
</tr>
<tr>
<td>Summary of Results</td>
<td>78</td>
</tr>
<tr>
<td>Discussion</td>
<td>79</td>
</tr>
<tr>
<td>The Covariance of Depression with General Irrationality</td>
<td>91</td>
</tr>
<tr>
<td>Measures of General Irrationality</td>
<td>92</td>
</tr>
<tr>
<td>Depression Gradients of Outpatient and Inpatient Subjects</td>
<td>93</td>
</tr>
<tr>
<td>Severity of Depression Determined to be of Clinical Significance</td>
<td>95</td>
</tr>
<tr>
<td>Summary and Limitations</td>
<td>96</td>
</tr>
<tr>
<td>Suggested Further Research</td>
<td>98</td>
</tr>
<tr>
<td>APPENDIX A</td>
<td>102</td>
</tr>
<tr>
<td>APPENDIX B</td>
<td>113</td>
</tr>
<tr>
<td>REFERENCES</td>
<td>115</td>
</tr>
<tr>
<td>TABLE</td>
<td>Title</td>
</tr>
<tr>
<td>-------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>1.</td>
<td>Means, Standard Deviations, and Variances on Beck Depression Inventory and Irrational Beliefs Test for 50 Inpatient Subjects</td>
</tr>
<tr>
<td>2.</td>
<td>Pearson Product-Moment Correlation Coefficients Between Irrational Beliefs Test Scores and Beck Depression Inventory Score for 50 Inpatient Subjects</td>
</tr>
<tr>
<td>3.</td>
<td>z Scores Computed on Pearson Product-Moment Correlation Coefficients for Inpatient Subjects</td>
</tr>
<tr>
<td>4.</td>
<td>Means, Standard Deviations, and Variances on Beck Depression Inventory and Irrational Beliefs Test for 50 Outpatient Subjects</td>
</tr>
<tr>
<td>5.</td>
<td>Pearson Product-Moment Correlation Coefficients Between Irrational Beliefs Test Scores and Beck Depression Inventory Score for 50 Outpatient Subjects</td>
</tr>
<tr>
<td>6.</td>
<td>z Scores Computed on Pearson Product-Moment Correlation Coefficients for Outpatient Subjects</td>
</tr>
<tr>
<td>7.</td>
<td>t Test of Difference Between Mean Scores on the Irrational Beliefs Test, Comparing Depressed Versus Nondepressed Inpatient Subjects</td>
</tr>
<tr>
<td>8.</td>
<td>t Test of Difference Between Mean Scores on the Irrational Beliefs Test, Comparing Depressed Versus Nondepressed Outpatient Subjects</td>
</tr>
<tr>
<td>9.</td>
<td>Summary of Stepwise Regression Analysis Conducted on 50 Inpatient Subjects</td>
</tr>
<tr>
<td>10.</td>
<td>Summary of Stepwise Regression Analysis Conducted on 50 Outpatient Subjects</td>
</tr>
<tr>
<td>11.</td>
<td>Two-Way Cross-Tabulation of Depressed-Type by Diagnosis for 50 Inpatient Subjects</td>
</tr>
<tr>
<td>12.</td>
<td>Two-Way Cross-Tabulation of Depressed-Type by Diagnosis for 50 Outpatient Subjects</td>
</tr>
</tbody>
</table>
CHAPTER I

INTRODUCTION

The present study concerns the phenomenology of the clinical syndrome known as depression. This disorder has been existent for a long time, the study of which has ensued for over 2,000 years. It has received recognition as a formidable problem to the adaptive mode of functioning in human beings since before Christ. Depression is a pervasive disorder which permeates a multitude of disorders encompassed within present-day psychiatric nomenclature, including both inpatient and outpatient populations. It is a malignancy which serves as a major mental health problem in the United States today.

A statistical presentation provided by Schuyler (1976) serves as evidence which attests to the seriousness of this problem. Citing the latest available figures from the Biometry Branch of the National Institute of Mental Health, he contended that 275,555 patients were admitted to psychiatric facilities in the United States in 1971, as a result of depressive disorders. This figure comprises 22 percent of the total of all admissions that year. Schizophrenic disorders accounted for 27 percent of the total number of admissions that year, and thus the magnitude of the depressive disorders is rendered even more salient. It thereby seems
most appropriate that depression has been designated as the disease of the 1970's.

With what would appear to be a very marked emergence of the depressive disorder, as suggested by the shift in frequency of diagnostic occurrence, an important question would seem to be whether this phenomenon reflects a change in the incidence of the disorder or whether it is the result of a transition in psychiatric training and emphasis. Inasmuch as Schuyler serves as an advocate for the postulation as to an increase in the occurrence or incidence of depression, it seems only fair that an alternate and opposing argument be presented at this time.

Ullmann and Krasner (1975) provided such a perspective as they presented a sociopsychological formulation attempting to account for differential rates in the frequency of diagnostic classifications. These authors attested to the complexities involved in the assignment of diagnoses as they made reference to the availability of professional resources, differences in populations served, and differences in societal implications of the decisions made, as well as the important consideration of the educational and training background of those mental health professionals involved in assigning depressive diagnoses. Lin (in Ullman & Krasner, 1975) was cited as an ally in their discussion as to the importance of this latter issue concerned with psychiatric orientation, and he emphatically stated that "the education and training
background of the psychiatrist is more decisive than cultural variations in the identification of symptom-complexes" (p. 183).

In spite of this debate as to the existence of a shift in incidence versus a shift in training and orientation, the value of the present study remains unscathed. This is primarily a result of the nature of the study, as well as what appears to this writer to be a prominent problem in our society today, regardless of whether there has been a shift in incidence or whether we are now just more adept at identifying the depressive disorder.

As Ullmann and Krasner pointed out:

The behaviors that will lead people to designate someone as mentally ill vary with time, place, and person. This insight is one of the major contributions of cross-cultural psychiatry. Within a given culture, such as ours, there is evidence from epidemiological studies that the rate of people emitting behavior that might possibly be labelled abnormal (prevalence) is far higher than the rate of people hospitalized or treated for such behavior (incidence). (p. 201)

Suicide

Another present-day problem to be considered here, and one which further serves to illustrate the dire need for further exploration and greater understanding of the depressive disorder, is that of suicide. Although depression does not serve as the single causative factor in suicidal acts, it indubitably functions as one of the most critical elements to be recognized and addressed in relationship to this
problem.

Schuyler (1972), a reputable author on the topic of suicide, provided statistics which attested to the magnitude of this problem. He intimated that there are 10 suicides per 100,000 individuals. There were 24,280 suicides recorded in 1972, and many more deaths which are not designated as such although they most assuredly should be. Many authors contend that the actual figure is closer to 50,000 deaths per year by suicide. Schuyler cited this act of self-destruction as the eleventh major cause of death in the United States, while serving as the fifth leading cause of death among the most potentially productive members of our society, those from 25 to 44 years old.

The depressive disorder has been diagnosed retrospectively in as many as 80 percent of reported samples of hospital patients who die by suicide (Flood & Seager, 1968). Schuyler (1976) summed up the relationship between depression and suicide very parsimoniously as he stated, "Unlike most categories of emotional illness, depression can be fatal" (p. 359).

Kiev (1972), in addition to many other authors, viewed the suicidal state essentially in terms of depression or, in other words, as a psychiatric disorder. He contended that the suicidal person experiences inner distress of an emotional nature, without recognition of the fact that it is an illness requiring treatment like a physical illness.
Although his emphasis on the emotional aspects of depression as well as the conception of depression as an illness is not altogether palatable, Kiev's viewpoint as to the prevalent nature of depression in suicidal individuals is to be considered most important. It would thereby seem worthy of additional study, perhaps to enlighten us as to the exact nature of the relationship existent therein. Such an undertaking is naturally not within the scope of the present study; however, it is hoped that future research will endeavor to expose that relationship.

Farber (1968) lent further support for additional studies of depression which may directly or indirectly provide information as to the phenomenon of suicide, as he contended that suicide takes place in a state of sadness and desperation. Depression is frequently perceived to be a prelude to suicide, and thus by increasing our knowledge of depression we naturally learn much about the act of suicide. Farber furthermore stated that "the concept of suicide is not an isolated one; it has ramifications reaching deep into the body of psychological knowledge" (p. 5).

It is also interesting to note Farber's psychocultural hypothesis of suicide. Encompassed within this is the notion that suicide rates vary as a result of suicide-producing forces in the culture, and it is contended that in a culture with a high suicide rate, one might also very well find a greater number of unsuccessful suicide attempts, more
depression, and, even in normal people, some susceptibility to depression in the character structure.

Of central importance to Farber's hypothesis is the notion of hope and the intimately related concept of competence. Of significance to the present study is the way in which these concepts may be related to depression and faulty cognitions. It is interesting to note here a study conducted by Farber in which he demonstrated that the degree of suffering of prisoners in a penitentiary was inversely related to their hopes and the structure of their future outlook. Thus, it would seem that hopelessness and the potential for suicide is a function of an individual's perception of a situation or events, rather than the stimulus itself.

A hopeful orientation is considered to be antisuicidal, and thus Farber concludes that the greater fragility of hope among the Danes in contrast with the Norwegians is shown in a proclivity for the Danes to become more depressed, as revealed in their data.

The ability to sustain hope is seen as a function of perceived feelings of competence, and Farber makes an illuminating analysis of the relationship between hope, competence, and age as it pertains to suicide rates. In most western countries, primarily as a result of societal roles assigned to varying stages of life, suicide rates are seen to increase with age. In general, this has been attributed to a transition from a buoyant, optimistic youth, through a stage of
middle-age insecurities and self-doubt as to the attainment of aspirations and goals, and culminating in old age at which time tragedies may be more prominent, feelings of incompetence more pronounced, and feelings of hopelessness more poignant.

The act of suicide is thus interpreted in the present study as very closely related to, and in many cases a direct result of, depression, and involving a perception or interpretation of environmental input in such a way as to invoke feelings of hopelessness and ineptitude, a poor self-concept, and a pessimistic outlook as to the future. As postulated by Rush and Beck (1978):

Suicidal wishes can be understood as an extreme expression of the desire to escape from what appears to be an unbearable situation. The depressed person may see himself as a worthless burden and consequently believe that everyone, himself included, will be better off when he is dead. (p. 202)

In summary, it is hoped that a study such as the present one, which endeavors to explore and investigate the cognitive components of depression, will serve to indirectly, if not directly, shed some light on the evasive problem of suicide.

Definition of Depression

The term depression is obviously a very broad label, and encompasses an array of meanings while eliciting a variety of subjective translations and interpretations. A more specific definition will therefore be provided.
Depression has been subjected to a multitude of descriptors in an attempt to more clearly delineate the clinical manifestations of this disorder, thereby successfully classifying it and consequently suggesting a preferred treatment of choice. In spite of the fact that this disorder has been recognized as a clinical syndrome for more than 2,000 years, there still exist many outstanding questions in need of explanation in regard to its nature, classification, and etiology. Attempts to provide answers to some of these questions have transpired which have had as their main intent a greater comprehension of depression, and have consequently resulted in an analogous condition in dogs (Seligman, 1974) and in monkeys (Harlow & Suomi, 1971).

Beck (1967) provided a synopsis of his perception of some of the unresolved issues pertaining to depression as follows:

1. Is depression an exaggeration of a mood experienced by the normal, or is it qualitatively as well as quantitatively different from a normal mood?

2. Is depression a well-defined clinical entity with a specific etiology and a predictable onset, course, and outcome, or is it a "wastebasket" category of diverse disorders?

3. Is depression a type of reaction (Meyerian concept), or is it a disease (Krapelinian concept)?

4. Is depression caused primarily by psychological stress and conflict, or is it related primarily to a biological derangement? (p. 4)

It becomes readily apparent that there exists a great
deal of discrepancy and disparity between clinicians as to the classification of depression, and it would appear that there is even greater disagreement as to its nature and etiology. Much of the dissension revolves around the contention by some writers that depression is a psychogenic disorder, while others argue that it is the result of organic abnormalities. There are also those who operate under the assumption that there do in fact exist two different kinds of depression: a psychogenic as well as an organic type. In spite of the fact that this study will not endeavor to prove one contention or the other, it may be noted herein that the notion of depression as encompassed within both an organic as well as psychogenic anomaly is considered to be most palatable.

The depressive state, as it was initially conceived, had the label "melancholia" bestowed upon it, and it was Hippocrates who provided the first clinical description of melancholia in the fourth century, B.C. It is further noted that he wrote of a condition which today seems consistent with the manic-depressive state (Jelliffe, 1931). It is also possible to regress even further into the annals of time and find references to depression in the Old Testament, in the writings of Homer (? B.C.), and in offerings by Plutarch in the second century, A.D. Plutarch was responsible for the graphic representation of melancholia provided below:
He looks on himself as a man whom the Gods hate and pursue with their anger. A far worse lot is before him; he dares not employ any means of averting or of remedying the evil, lest he be found fighting against the gods. The physician, the consoling friend, are driven away. "Leave me," says the wretched man, "me the impious, the accursed, hated of the gods, to suffer my punishment." He sits out of doors, wrapped in sackcloth or in filthy rags. Ever and anon he rolls himself, naked, in the dirt confessing about this and that sin. He has eaten or drunk something wrong. He has gone some way or other which the Divine Being did not approve of. The festivals in honor of the gods give no pleasure to him but fill him rather with fear or a fright. (Beck, 1967, p. 5)

In more recent writings of the nineteenth century, Pine (Beck, 1967) provided a compatible description of melancholia as follows:

The symptoms generally comprehended by the term melancholia are taciturnity, a thoughtful pensive air, gloomy suspicions, and a love of solitude. Those traits appear to distinguish the characters of some men otherwise in good health, and frequently in prosperous circumstances. Nothing, however, can be more hideous than the figure of a melancholic brooding over his imaginary misfortunes. If moreover possessed of power, and endowed with a perverse disposition and a sanguinary heart, the image is rendered still more repulsive. (p. 5)

Beck (1967) made a point of delineating the similarities of the two descriptions of depression noted above, with those proffered by modern textbooks. In terms of classifying or diagnosing depression, one investigates the preponderance of disturbed mood (sad, dismayed, futile); the existence of self-castigations ("the accursed, hated of the gods"); self-debasing behavior ("wrapped in sackcloth or in filthy rags . . . he rolls himself, naked, in the dirt"); wish to die;
physical and vegetative symptoms (agitation, loss of appetite and weight, sleeplessness); and delusions of having committed unpardonable sins.

Considering all that has been presented thus far, it would seem warranted that a definition of depression be provided in accordance with Beck's (1967) assigned attributes:

1. A specific alteration in mood: sadness, loneliness, apathy.
3. Regressive and self-punitive wishes: desires to escape, hide, or die.
5. Change in activity level: retardation or agitation. (p. 6)

**Significance of the Problem**

It should serve well to note here that this study entails an investigation of depression as it is accounted for via cognitively oriented theory. Considering the historical trend in the classification and treatment of depression, the cognitive theorists may be considered "new kids on the block." Rainy (1975) contended that the cognitive theory of emotional disturbances has been minimized and consequently failed to emerge due to the attention paid to the historical popularity of characterizing psychological disturbances as emotional disorders, as the product of early conditioning, or in terms of unconscious conflicts.
In spite of their relatively recent emergence within the past 1-1/2 decades, there has been an appreciable amount of data collected and presented by proponents of the cognitively oriented approach that serves as evidence of the utility and importance of this modality. Illustrative of this is the fact that in spite of previously held beliefs that schizophrenia monopolized or exclusively dominated disturbances classified as thought process disorders, there is evidence to indicate that this is a fallacious contention. Winokur, Clayton, and Reick (1969) provided evidence of thought content disturbances, as well as thought process anomalies, in depressed individuals. Beck (1964, 1971) has likewise provided an impressive amount of evidence which implicates thought disorders as serving as the underlying mechanism in depression. Ellis and Harper (1961) presented a compatible view of depression, as they proposed that psychopathological emotions such as depression are the result of irrational cognitions and underlying premises of a fallacious nature. There would seem to be more than an ample amount of evidence to support such a position that emotional reactions are determined to a large extent by cognitive components (Arieti, 1965; Rotter, 1970; Schachter & Singer, 1962).

**Statement of the Problem**

It would appear that one of the primary problems existing presently involves the lack of sufficient research in
which an objective measure of irrational ideations is obtained as they pertain to the phenomenology of depression. If it is actually the case that the affective component of depression is a product of irrational and fallacious cognitions which result in maladaptive correlates of behavior, then it would seem imperative that attempts be made to determine the composition of those cognitions which could then be postulated as characteristic of depressed individuals. Inherently interesting in such a question is the speculation as to the differences or variations in the composition of irrational beliefs as attested to by differing populations or groups of people.

This study proposes the investigation of underlying beliefs as adhered to by both inpatient and outpatient psychiatric populations. A comparison may also be drawn as to irrational beliefs adhered to by "normal" and depressed college students. An important question seems to revolve around whether or not irrational beliefs adhered to by depressed patients confined in a psychiatric hospital setting will differ quantitatively or qualitatively from those adhered to by a depressed outpatient population, or even from a depressed college population. One might postulate as to a different clustering of such beliefs, or possibly a variance in the intensity to which fallacious cognitions are adhered to by individuals in these different populations.

Nelson (1977) found a clustering of specific irrational
beliefs, from those originally proposed by Ellis (1962), as being characteristic of 156 college students sampled. Inasmuch as there has not been an attempt to objectively assess the prevalence of such mentation characteristic of a psychiatric population, this appears to be fertile soil for cultivation.

**Purpose of the Research**

The primary purpose of the present study is the measurement and consequent comparison of the irrational beliefs adhered to, and assumed to be causative of the affective manifestation, in the depressive disorder. Analysis will be limited to depressed individuals confined in a psychiatric facility, and those attending a mental health clinic on an outpatient basis. Comparisons may also be made with results obtained from subjects extracted from a college population sampled. Inasmuch as Nelson (1977) has provided results from experimentation with a relatively large data base of college students, utilizing the Beck Depression Inventory (BDI) and the Irrational Beliefs Test (IBT), the present study will not endeavor to duplicate that work. Instead, it is possible to obtain an analysis of cognitive clustering in a psychiatric population and then compare the results with those obtained by Nelson. The main intent of the present study is thus the determination as to whether there does in fact exist a cluster of irrational cognitions characteristic of
depression, and whether these clusters differ between populations sampled. Differences are to be delineated as to the composition of irrational beliefs involved, or variations in the intensity of adherence to these faulty cognitions.

Furthermore, inasmuch as assessment of the severity of depression is valued very highly in the initial stages of therapy and appropriate concern is devoted to the quest for unveiling the etiological factors in the depressive disorder, the present study will hopefully contribute to the recognition of the utility of objective assessment, or psychometry, in the classification and treatment of depression. Jones (1968) performed research and accordingly devised such an objective instrument, in order that he might validate Ellis' proposed irrational beliefs or ideas as measurable constructs. A secondary purpose of this research is, thus, demonstration of the fact that objective tests (in this case, the IBT) may be employed as resources whereby the therapist can more readily and more expediently reveal misconceptions adhered to by the client which result in his/her maladaptive ways of living. As Raimy (1975) proposed, "Self-discovery by the client promotes learning and performance. Both the therapist and client become friendly detectives working in the client's interest" (p. 17).
Rationale

The rationale for undertaking the present study revolves around the important ramifications as related to treatment applications, as well as further validation of the prevalence of disordered thought processes in the depressive disorder. The justification for a correlational study lies in the fact that although it is true that correlational analyses do not prove causation, as has been postulated by Ellis and reiterated by Trexler and Karst (1972), it is theoretically consistent to find relationships between irrational cognitions and emotional disorders such as depression.

Raimy (1975) provided additional support for further exploration and investigation into faulty cognitions as manifest in the depressive disorder as he postulated his misconception hypothesis. If his contention is accurate, then there most probably exists a clustering of irrational cognitions which are causing the affective manifestations of depression and which need to be discovered and modified in order to effect therapeutic change. Raimy proclaimed that any method or procedure employed to discover misconceptions is appropriate and is left to the discretion and preference of the therapist. Raimy continued by suggesting that misconceptions are clustered in some hierarchical fashion and that, by the modification of the most central misconception, subordinate misconceptions encompassed within that cluster can also be expected to change. Clustering of misconceptions
is considered to be the rule, with the only deviation occurring in isolated problems which are not of great significance insofar as overall adjustment is concerned.

As may already be discerned, Raimy has served to provide very influential input into the formulation of the present study. He has postulated the misconception hypothesis which transcends all therapeutic modalities, at a time when many therapists are in desperate quest of some type of mediating or centralizing theme with organizational or adhesive properties. Harper (1959) addressed just this issue and provided a very convincing argument as he delineated 36 different systems of therapy, and then went on to conclude that with the emergence of each new and distinct theory there is an equally distinct and even ominous increment in the degree of confusion existent in the field of psychology. Colby (1964) proclaimed that as far as the state of psychotherapy is concerned, "chaos prevails."

It may be readily apparent by this time that one of the most important contributions to be made by the present research is the provision of central underlying beliefs and ideas which are characteristic of depressed patients in a psychiatric population, and which may be more expediently modified by the mere cognizance on the part of the therapist of their existence in, and their impact on, the depressive disorder. Raimy (1975) contended, most appropriately:
Misconceptions provide a relatively specific and concrete focus for treatment. They may be hidden in masses of verbiage, but once they become salient, they sharpen the therapists' understanding of the difficulties faced by the client or patient. They are largely inferred from self-report during the course of therapy. (p. 17)

Given this, there is no defensible rationale for wading through the "masses of verbiage" in order to unveil the underlying misconceptions or fallacious ideas responsible for depression. It is the professional responsibility and obligation of all therapists to provide efficient and effective treatment in the most expedient manner possible. The present study will hopefully provide a means by which therapists can circumvent much of the preliminary investigatory work that now transpires in an attempt to discover underlying irrational beliefs thought to be causative in the depressive disorder, and thus will serve to hasten the therapeutic process by providing a target at which to aim. Given the present-day trend of increasing health care costs, accompanied by tremendous emphasis upon accountability in the mental health profession, this seems not only warranted, but expected.

**Hypotheses**

The hypotheses for the present study are delineated below:

$H_1$: There exists a clustering of irrational beliefs characteristically adhered to by depressed inpatients, as well as depressed outpatients; however, the clusters will differ in the nature of the beliefs adhered to.
$H_2$: The mean Beck Depression Inventory score will covary significantly with the mean total score obtained on the Irrational Beliefs Test, in both samples.

$H_3$: The mean total score obtained on the Irrational Beliefs Test will be significantly greater for inpatient subjects than for outpatient subjects.

$H_4$: The mean score obtained on the Beck Depression Inventory will be significantly greater for outpatient subjects than for inpatient subjects.

$H_5$: Of those subjects classified as depressed in accordance with Beck Depression Inventory criteria, inpatient subjects will score significantly higher on the Beck Depression Inventory than will outpatient subjects.
CHAPTER II

REVIEW OF LITERATURE

According to Klerman (1975), the middle decades of this century were entitled the "Age of Anxiety," while the later decades will best be described as an age of melancholia. The prevalence and the pervasive nature of depression have already been attested to and documented in preceding sections of the present study. In spite of the declaration attesting to the emphasis upon anxiety in days past, the clinical syndrome of depression was, and still is, the recipient of a great deal of attention. It therefore seems most fitting that a review of the literature begin with the theory which served as the foundation for much of the research and writings conducted in the area of depression, and one with which the lay population is indubitably most familiar. That theory is universally recognized as the psychoanalytic theory of depression.

Psychoanalytic Theory of Depression

Naturally, when one speaks of the psychoanalytic theory of depression it is imperative to make allusion to the central components of the theory, which are the unconscious, the libido, retroflexed hostility, and the concept of psychosexual development. Blanck (1976) contended that the psychoanalytical theory of depression is concerned with developmental
lines as they appear in a given individual, and which may serve to identify pathological areas of development, thereby providing a target at which to direct treatment. It becomes obvious upon reading psychoanalytically oriented literature that one of the lines of development which is of utmost importance in depression is that of object relations. Object relations are postulated to progress through graduated steps until they attain a level of object constancy. It is at that point that the individual is rendered capable of differentiating between self and others, the ultimate goal being acquisition of the capacity to love and to value the object.

However, whether or not one identifies with the psychoanalytic school of thought does nothing to negate the importance of the role of object relations in working with depressives. Among the many theorists who acknowledge the concept of object loss in depression are Beck (1974) and Stern, McClure, and Costello (1970). This concept is recognized and accepted as an integral component in the phenomenology of depression. Stern et al. proposed that "it is generally assumed that all depressions are reactions to loss that may be predisposed to by childhood losses, separations, and disappointments; it is further assumed that psychotherapy is the treatment of choice in most cases" (p. 170).

The issue of a predisposition toward depression is worthy of further elaboration, and was addressed by many of the psychoanalytic writings. Abraham (1960a, 1960b), who in
his writings of 1911 and 1916 paid tribute to the significance of hostility and orality in depression, perceived the depressive disorder as being comprised of feelings of hatred and hostility, which were the byproducts of ungratified sexual aims. As quoted in Beck (1967), Abraham concluded that "an inherited predisposition toward oral eroticism fixed the malancholics' psychosexual development at the oral stage" (p. 245). This idea of oral fixation was reiterated by Gero (1936), as he concurred with the theory that oral eroticism is the favorite fixation point in the depressive. Rado (1928) contributed additional support to this notion as he maintained a consistent viewpoint with Freud's (1917/1950) account of depression in his book entitled Mourning and Melancholia. Freud proclaimed that depression results from narcissistic identification of the ego with the lost object, via introjection or incorporation. A regression back to the oral stage of erotic development invariably occurs. Rado (1928) contended that the predispositional components consisted of intense narcissistic needs and a precarious self-esteem. Loss of a love object, then, consequently results in anger and punishment of the ego in an attempt to restore self-esteem. This loss of the love object, at which the person becomes angry initially and which the ego eventually incorporates as part of the self, may be real or may be imagined. The rage experienced may, of course, be unconscious.
Bibring (1953) also operated under the conviction, as did the majority of his psychoanalytic predecessors, that a predisposition to depression was a primary consequence of early childhood traumas.

A point of view at variance with such a position may be found in the writings of Klein (1934/1948), who contended that depression was not a condition predisposed to by early traumatic experiences, but rather depended upon the relationship between the mother and child during the first year of life. Depression in adult life was thus viewed as a reactivation of an early infantile depression.

In mentioning the publications of Bibring above, it would serve well to note the fact that he did deviate from the teachings of the psychoanalysts insofar as he documented the importance of the loss of self-esteem in depressed individuals. Further support for this notion was provided by Jacobson (1953, 1954), and more recently by Ludwig (1975), whose experiments involved the induction of depression as a result of lowering the individual's beliefs regarding his/her own worth. Coleman (1975) lent further validity to the self-esteem interpretation in his experiments employing Velten's (1968) technique. Hayes and Prinz (1976) conducted experiments which indicate that failure experiences are depressing, and Blaney (1977) contended that this may in fact serve as further evidence of the validity of the self-esteem model. The self-esteem hypothesis as it relates to depression
remains one of the central tenets of Beck's theory of depression, and will be expounded upon later in the present study.

As a final note to the psychoanalytical model of depression, it serves well to note here that Cohen, Baker, Cohen, Fromm-Reichmann, and Weigert (1954) proposed that too much emphasis has been attributed to hostility and aggression as a dynamic factor. Hostility is not perceived by Cohen et al. as a product of frustrated and ungratified needs or drives, but is rather seen as the result of annoyance which the depressed individual elicits from those he/she encounters, as a result of his/her demeaning behavior.

Cohen et al. furthermore contended that the depressive espouses feelings of guilt and self-deprecation not emanating from sincere self-disclosure of an experiential state, but rather in an attempt to exploit others and to placate authority. This viewpoint is reminiscent of the adaptational theory of depression such as that proposed by Adler (1961), in which he ascribed a functionalist interpretation to depressive symptomatology.

**Existential Theory of Depression**

Proponents of the existentialist theory of depression have long pondered over the question of time in regard to the depressed individual, inasmuch as they would contend that there is an impairment in time perspective. The depressed patient invariably engages in selective recall which results
in the constant remembrance of painful events. As a result, negative and self-deprecatory cognitions remain foremost in his/her thinking. This merely serves to impress upon the depressed individual his/her unworthiness and ineptitude.

As presented in Beck (1967), a description of depression which is consistent with existential thinking may be found in Tellenbach's (1961) book, *Melancholic*. According to this author:

[Depressives] all have a relatively uniform premorbid personality structure. The life and work of the melancholic is dominated by a strict order: orderliness in dealing with things, conscientiousness in his work, and an overriding need to do right to those close to him. He has a great sensitivity to the dos and don'ts, the shoulds and should nots. At the same time, he has great sensitivity to guilt. The melancholic devotes his life to fulfilling his sense of order and to avoiding situations of guilt. He prefers the security of steady employment to the risk involved in free self-propelled work. (p. 251)

**Pharmacological Theory of Depression**

Another theory of depression which is worthy of inclusion not only because of its widespread use, but also because of its efficacy in treatment of some depressive disorders, is the biochemical or pharmacological concept of depression. An extensive review of the literature concerned with this approach to depression will not be conducted here, inasmuch as the present study does not entail investigation into the role of biochemical disorders. A brief exposé of the rationale underlying this approach will be provided, however.
It seems appropriate to note here that Bibring (1953) postulated a common denominator in depressive reactions, despite documentation of a multiplicity of forms. He contended that depression is an affective disorder, the main component being a loss of self-esteem. Klerman (1975) echoed a similar conception of depression, at least in terms of its homogeneous nature. He contended that the term depression has been used in many different fields, and that there has consequently arisen a widely shared view that there exist common mechanisms underlying the neurophysiological, pharmacological, and clinical phenomena.

As a result, some clinicians and investigators have concluded that clinical depressive symptoms are the result of a reduction of some generalized or specific central nervous system function. Operating under such an assumption, it is presumed reasonable that the best treatment of depressive symptomatology involves the administration of a drug that has the countereffect, thus the introduction of stimulant drugs. This stimulant-depressant continuum has served as the classic model for the neuropharmacology and pathophysiology of affect states.

As already intimated, the present study concerns itself with underlying psychological mechanisms of depression, and although the utility of a biochemical approach is not totally negated, it is not encompassed within the realm of this study, which maintains a focus on the function of cognitive
structures in depression.

**Behavioral Theory of Depression**

Over the past 10 years, we have witnessed increased interest and investigation into the biological concepts of depression, which has not been paralleled by an increase of interest in behavioral aspects of depression. Much of the current literature in this area consists of conceptual papers and single case reports.

Earlier sections of the present study have endeavored to demonstrate the prevalence of psychoanalytic formulations of depression (Abraham, 1911/1960a; Freud, 1917/1950). Emphasis was given to retroflexed hostility and other intra-psychic processes as etiological mechanisms, but as Lewinsohn (1975) proclaimed, these hypotheses have not resulted in the production of empirical research or in the development of specific treatment procedures.

Lewinsohn further proclaimed that depression has suffered relative neglect from behavior therapists. Reports by Burgess (1969), Lazarus (1968), and Lewinsohn, Weinstein, and Shaw (1969) served to address the first application of behavioral treatment to depressed individuals. Subsequently, there have evolved many formulations and accompanying treatment approaches.

The postulation of a reduced positive reinforcement rate is a critical element in most behavioral formulations of
depression. There is also considerable support for the major
tenet of the behavioral theory of depression, namely, that
there exists an association between positive reinforcement
and depression (Hersen, Eisler, Alford, & Agros, 1973; Lewin­

In his 1953 publication of Science and Human Behavior,
Skinner provided the first functional analysis of depression.
He contended that depression is a weakening of behavior as
well as loneliness which ensue as a result of the interrup­
tion of established sequences of behavior which were posi­
tively reinforced. Extinction continues to serve as an
integral component in the behavioral conception of depression.

Lazarus (1968) likewise considered depression to be a
"function of inadequate or insufficient reinforcers" (p. 84),
which is consistent with the extinction hypothesis.

Lewinsohn (1975; Lewinsohn et al., 1969) reiterated the
conceptualization of depression according to the extinction
model as he proposed that depression results from a low rate
of response-contingent positive reinforcement. As Blaney
(1977) indicated, Lewinsohn explicitly proclaimed that it is
not the rate of reinforcement per se that is important in the
etiology and maintenance of depression, but rather it is the
rate of response-contingent reinforcement that is crucial.
It may be noted here that much of the empirical work done
thus far on Lewinsohn's theory has been correlational (Bren­
ner, 1975; Lewinsohn & Graf, 1973; Lewinsohn & Libet, 1972;
Lewinsohn & MacPhillamy, 1974; Sheslow & Erickson, 1975).

Ferster (1965, 1966) delineated the characteristics of depression as retardation of psychomotor and thought processes, including a decrease in previously successful behaviors. His conclusions are thus also consistent with the definition of the depressed person as evidencing a reduced frequency of emission of positively reinforced behavior. Ferster (1973) went further by ascribing antecedents of depression to a failure to deal with, avoid, or escape from aversive social consequences. He placed emphasis on passivity, as well as perceptual and cognitive traits which are conceived of as a consequence of the developmental history of the depressive, in addition to a low rate of emission of positively reinforced behavior.

Costello (1972) departed from the use of depression as a loss of reinforcement, and instead asserted that depression is the consequence of loss of reinforcer effectiveness. Such impotence may be the result of either endogenous, biochemical, and neurological changes, or of disruption or alteration of a chain of behavior. Tests of a prediction from Costello's hypothesis were conducted by Lewinsohn and MacPhillamy (1974) as well as MacPhillamy and Lewinsohn (1973). Confirmation was obtained in both cases, indicating that the subjective enjoyability of pleasant events is lower in depressed than in nondepressed persons. Subjects consisted of normals and nondepressed psychiatric controls.
Wolpe (1969) attributed great importance to the existence of anxiety in the etiology of depression. More recently, Wolpe (in Lewinsohn, 1975) has expanded the circumstances in which depression is postulated to occur as consisting of: (1) a consequence of severe and prolonged anxiety; (2) a consequence of failure to control interpersonal situations, due to the inhibiting effects of neurotic anxiety; and (3) an exaggeration and prolongation of the normal reaction to loss.

Another formulation attempting to account for the factors involved in the etiology of depression is that of Seligman (1973), who contended that "if the symptoms of learned helplessness and depression are equivalent, then what we have learned experimentally about the cause, cure, and prevention of learned helplessness can be applied to depression" (p. 43).

Learned helplessness is a laboratory phenomenon that was first introduced via laboratory experiments with dogs. It has since been generalized to the learning or conditioning that occurs in depressed human beings. The main proponents of this theory account for the state of reactive depression as a state of learned helplessness, characterized by the perception of noncontrol. The organism is said to have learned that response and outcome are independent. A more complete exposition of this theory may be witnessed in the writings of Maier, Seligman, and Solomon (1969);
Seligman (1974); and Seligman, Maier, and Solomon (1971).

Lewinsohn (1975) cited the main psychological phenomena involved in the concept of learned helplessness as follows:

1. Passivity in face of later trauma, i.e., organism is slower or may not respond at all in ways which would alleviate trauma.

2. The organism is retarded in learning that his responses produce relief. Inability to control trauma is seen as debilitating adaptive behavior.

3. Lack of aggressiveness and competitiveness.

4. Weight loss and undereating. (p. 33)

**Cognitive Theory of Depression**

Not totally alien to the behavioral conception of depression is the theory espoused by Beck. Both Beck (1970) and Lewinsohn (1975) contended that there do exist some commonalities between the behavioral and cognitive approaches to depression.

Beck (1970) indicated that despite the fact that behavior therapy relies primarily on learning theory, while cognitive therapy is derived from cognitive theory, the two systems have the following in common:

1. The therapeutic interview is conceived of as more overtly structured than is true of other therapies, and the therapist is perceived of as more active.

2. Although the target of therapeutic intervention differs, both cognitive and behavior therapists aim their techniques at the overt symptoms, or behavior problem. They are thus both at variance with psychoanalysis, which views symptoms as "disguised derivatives of unconscious conflicts" (Beck, 1970, p. 185).
3. Again diverging from psychoanalysis, neither of these two therapies relies heavily on recollections or reconstructions of the patient's childhood experiences.

4. Traditional assumptions set forth in psychoanalytical literature (i.e., infantile sexuality, fixations, the unconscious, mechanisms of defense) are excluded from their theoretical paradigms. Introspective data are utilized therapeutically; however, they are taken at face value and are not subjected to high-level abstractions.

5. Both cognitive and behavioral theories assume that the acquisition of maladaptive reaction patterns occurs according to a learning process and thus may be unlearned.

Beck (1970) paid tribute to the number of well-designed experiments conducted by proponents of behavior therapy, and which lend support to some of their basic assumptions. He also credited systematic studies in support of cognitive therapy (Carlson, Travers, & Schwab, 1969; Jones, 1968; Krippner, 1964; Loeb, Beck, Diggory, & Tuthill, 1967; Rimm & Litnak, 1969; Velten, 1968). Ellis and Greiger (1977) and Trexler and Karst (1969) are cited as providing controlled-outcome studies which attest to the efficacy of cognitive therapy.

The need for the introduction and perpetuation of a cognitively oriented treatment approach in depression was indirectly addressed by Mahoney (1977). He established the popularity of this approach as one of the clearest trends in contemporary psychology (Dember, 1974; Weimer & Palermo, 1973). According to Mahoney (1977):
Within any given subspecialty, one can readily detect the impact of theory and research on mediating processes and cognitive-symbolic mechanisms. This trend is no less apparent in clinical psychology, where cognitive therapies are rapidly becoming among the most popular. Indeed, one of the most striking aspects of the cognitive "revolution" has been its pervasiveness. (p. 5)

Arieti (1965) likewise addressed the need for transition toward more emphasis on a cognitively oriented approach to psychiatry. His appraisal is reflected by the following:

Conceptual life as a force in psychodynamic psychiatry has so far been unduly underestimated. . . . Concepts and organizations of clusters of concepts become depositories of emotions or originators of new emotions. They may have a great deal to do with the conflicts of man, his achievements and his frustrations, his states of happiness or despair, of anxiety or of security. The concept feelings of personal significance, of self-identity, of one's role in life, of self-esteem, of being acceptable or nonacceptable, loveable or unloveable, could not exist without complicated cognitive constructs. We could consider these conceptual constructs only from the point of view of the emotions which accompany them, but we must remember that such emotions would not exist without highly cognitive processes. . . . They are responsible for the glory of man and his downfall and, to a large extent, for his state of mental health or illness. (p. 361)

Arieti went on to contend that involutional melancholia occurs when conscious or unconscious cognitive constructs are so developed as to permit the person to evaluate his/her past, present, and future life adversely. Such a viewpoint of depression is reminiscent of Beck's theory of the depressive disorder, which will be further elucidated upon at this point.

Beck (1970) provided a definition of cognitive therapy
as "any technique whose major mode of action is the modification of faulty patterns of thinking" (p. 187). He then went on to provide a more specific definition: "A set of operations focused on a patient's cognitions (verbal or pictorial) and on the premises, assumptions, and attitudes underlying these cognitions" (p. 187).

Beck attributed particular importance to cognitive schemata which consist of idiosyncratic and irrational cognitions. These schemata are thus responsible for faulty appraisals which the depressed person commits, and which may range from mild distortion to complete misinterpretation. He furthermore contended that these idiosyncratic cognitions form a pattern which is peculiar to each individual or to a particular psychopathological state.

Beck disputed and discarded the notion that man is governed by powerful unconscious influences over which he has no control, and instead attributed emotional disturbances to man's misconceptions about himself, his irrational beliefs, and faulty assumptions about reality. Thus, Beck opposed many historical views as to the phenomenon of depression by his adherence to the conviction that affects are determined according to the way in which a person structures and perceives his experiences (Weismann & Beck, 1978).

The issue of a predisposition to depression was addressed in earlier sections of the present study, and thus it appears only fair to include Beck's theory of this
phenomenon.

Beck contended that during developmental stages early in a person's life there is developed a wide variety of concepts and attitudes about himself/herself and the environment. Personal adjustment stems from the development of some of these concepts that actually reflect reality orientation. Others do not conform to the reality base just alluded to, and thereby serve to produce what Beck considered to be vulnerability to possible psychological disorders.

According to Beck's theory, the pathogenesis of depression entails the incorporation of an individual's concepts or attitudes towards himself/herself, his/her environment, and his/her future. These attitudes are always the result of interactions between the person and his/her environment, and comprise what Beck referred to as the cognitive triad in depression.

Once cognitive schemata are developed, they become more or less fixed, although they may be latent during asymptomatic periods. The schemata serve as cognitive structures or organizations. It is according to these structures that screening, evaluating, and coding of stimuli by the individual take place. Given the establishment of depressogenic schemata at an early stage of the person's life, there may occur a reactivation of that cognitive pattern later in life. Such a reemergence of these cognitive patterns results in the depressive symptomatology, and the progressive dominance of
cognitive patterns associated with the depressive state (i.e., the cognitive triad). The triad of negative interpretations and evaluations is then perpetuated by idiosyncratic cognitions which divert thinking into channels that deviate from reality. Beck furthermore contended that these thoughts are automatic, involuntary, and seem plausible to the patient.

In summary, then, the cognitive triad is comprised of negative evaluations which are characterized by unrealistic, distorted, and illogical ways of thinking, and are not consistent with reality. The concept of a very low self-esteem is central to Beck's theory. The depressed individual's thinking is dominated by idiosyncratic cognitions and is evidenced by the excessive use of the following processes:

1. **Arbitrary inference.** A conclusion is derived from insufficient evidence, or may even be contrary to the evidence. Self-referential thinking is illustrative of this kind of misinterpretation.

2. **Overgeneralization.** Conclusions are drawn on the basis of one single incident, and generalized to all similar situations.

3. **Magnification.** The exaggeration of the meaning or significance of a given event. Ellis (1962) coined the term "catastrophizing" as descriptive of this tendency.

4. **Cognitive deficiency.** This is demonstrated in individuals who fail to profit from their experiences, and thereby display their lack of attention to an important aspect of a given situation. They may ignore, fail to integrate, or simply fail to apply information from past experience.
It is no surprise that today's literature evidences an increment in the number of studies indicating the efficacy of cognitive therapy in the treatment of depression (Morris, 1975; Schmickley, 1976; Shaw, 1975; Taylor, 1974). Included in this recent upsurge is a great deal of work contributed by Albert Ellis.

Last, but not least to be included in this chapter, is a discussion as to Ellis' theory of emotional maladjustment, thus encompassing his conceptions of depression.

Ellis serves as an integral component in the present study, inasmuch as his theory of emotional maladjustment has served as the foundation upon which this study has been erected. Ellis (1962) has postulated the existence of 10 core irrational beliefs with which people tend to indoctrinate themselves and which consequently result in emotional upset. However, in a review of the literature concerning Ellis' approach to the phenomenology of depression, one striking aspect of his writings appears to be a relative lack of specificity as to the exact nature of faulty cognitions involved in the etiology and/or maintenance of depression. It is exactly that target at which the present study is directed. Such an endeavor must naturally include a review of the theory underlying the rational-emotive therapy approach, and the remainder of this section will strive to provide such a review.

Ellis advocated a cognitively oriented theory which is
in many ways similar to that of Beck. Shaw and Beck (1977) made note of the general agreement between cognitive therapy and rational-emotive therapy. The therapist is perceived in both as an active participant in the therapeutic process; the primary targets of therapy are automatic thoughts, basic beliefs, and general theories that underlie the client's emotional disturbance; in both, the therapist attempts to get the client to realize, recognize, and accept a valid, empirically based view of self and of the world (p. 309).

There have been many publications which have attested to the value and utility of rational-emotive therapy and have served to delineate the facets of Ellis' approach (Ellis, 1955a, 1955b, 1957, 1958a, 1958b, 1963, 1964; Ellis & Harper, 1961; Grossack, 1967; Hauck, 1967). Ellis' publication in 1962, *Reason and Emotion in Psychotherapy*, serves as an excellent resource book for a complete exposition of his general theory.

As Ellis himself was the first to admit, rational-emotive therapy (RET) has as its origins the philosophic writings of ancient Greek and Roman stoics. Among those most noteworthy are Epictetus and Aurelius. Epictetus was quoted as saying that "men are not disturbed by things, but by the views which they take of them" (Jones, 1968, p. 2). Aurelius proclaimed that "if thou are pained by any external thing, it is not this thing that disturbs thee, but thine own judgement about it and it is in thy power to wipe out
this judgement now" (Beck, 1976, p. 46). Early twentieth-century writers espousing theories consistent with those of Ellis were Dubois and Adler.

The basic premise underlying the RET approach is the belief that people do control their own destinies for the most part, and do so by believing in and acting on the values or beliefs that they hold. The theory then goes on to hold that people do not directly react emotionally or behaviorally to the events they encounter in their lives, as they are falsely under the impression they do. Instead, people are seen as causing their own reactions by the way they interpret their experience.

As Ellis himself declared, without a good body of experimental evidence to support it there does not exist a good theory of psychotherapy. In response to this there appears to have been accumulated a very impressive body of rigorously obtained research on RET. Ellis (Ellis & Greiger, 1977) claimed that 90 percent of the studies conducted as to the efficacy of rational-emotive therapy offer statistically confirming evidence favoring RET hypotheses.

Glass and Smith (1977) presented a review of hundreds of psychotherapy research experiments. The results of these experiments serve to illustrate the relative superiority of rational-emotive therapy, which took second place, falling just short of systematic desensitization. Eight other psychotherapies of prominence followed behind these two. Ellis

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accounted for the superior performance obtained in experimentation involving systematic desensitization by the fact that RET studies involved more complicated and more typical emotional disorders, as opposed to target symptoms such as fear of snakes and other atypical neurotic reactions.

In a review of outcome studies (DiGiuseppe & Miller, 1977), comparisons of the efficacy of RET versus systematic desensitization, client-centered therapy, and assertive training revealed the following conclusions:

1. RET is considered to be more effective than client-centered therapy with introverted persons.

2. RET is more effective than systematic desensitization in reducing general anxiety.

3. Cognitive therapy plus behavior therapy appears to be the most effective treatment for depression.

4. The relative effectiveness of RET vs. assertive training remains inconclusive as a result of limited and confounded research.

Ellis (1977) presented a list of 32 important clinical and theoretical hypotheses of rational-emotive therapy and listed a very impressive number of research studies that provide empirical confirmation of these hypotheses. It is an exhaustive list, and reference should be made to this publication for a thorough review and understanding. Conclusions derived on the basis of these studies may be summarized as follows:

1. A vast amount of research data may be found which serve to confirm the clinical and theoretical hypotheses of RET.
2. The amount of data keeps increasing at a very rapid pace.

3. RET hypotheses are easily testable experimentally, and have thereby encouraged a great deal of research.

4. Some of the important RET hypotheses remain untested as of yet, and will contribute a great deal to the field of psychotherapy and personality theory once completed.

In order for the reader to gain a greater appreciation of the theory which has been subjected to all the research cited above, Ellis' (1962) view as to the central theme of rational-emotive therapy is presented:

... that man is a uniquely rational as well as irrational animal; that his emotional or psychological disturbances are largely a result of his thinking illogically or irrationally; and that he can rid himself of most of his emotional or mental unhappiness, ineffectuality, and disturbance if he learns to maximize his rational and minimize his irrational thinking. It is the task of the psychotherapist to work with individuals who are needlessly unhappy and troubled, or who are weighted down with intense anxiety or hostility, and to show them (a) that their difficulties largely result from distorted perception and illogical thinking, and (b) that there is a relatively simple, though work-requiring, method of reordering their perceptions and reorganizing their thinking so as to remove the basic cause of their difficulties. (Jones, 1968, p. 4)

As already indicated, Ellis postulated that there exist irrational beliefs which are universally adhered to by emotionally maladjusted people. These beliefs and premises are endorsed to a varying degree, and are considered to be causally related to emotional disturbance. The following list serves to delineate the 10 core irrational beliefs as set
forth by Ellis, and which serve as the nucleus of the present study:

Irrational Belief #1—Demand for Approval. The idea that it is a dire necessity for an adult human being to be loved and approved by virtually every significant other person in his community.

Irrational Belief #2—High Self-Expectations. The idea that one should be thoroughly competent, adequate, and achieving in all possible respects if one is to consider oneself worthwhile.

Irrational Belief #3—Blame-Proneness. The idea that certain people are bad, wicked, or villainous and that they should be severely blamed and punished for their villainy.

Irrational Belief #4—Frustration Reactivity. The idea that it is awful and catastrophic when things are not the way one would very much like them to be.

Irrational Belief #5—Emotional Irresponsibility. The idea that human unhappiness is externally caused and that people have little or no ability to control their sorrows and disturbances.

Irrational Belief #6—Anxious Overconcern. The idea that if something is or may be dangerous or fearsome one should be terribly concerned about it and should keep dwelling on the possibility of its occurring.

Irrational Belief #7—Problem Avoidance. The idea that it is easier to avoid than to face certain life difficulties and self-responsibilities.

Irrational Belief #8—Dependency. The idea that one should be dependent on others and needs someone stronger than oneself on whom to rely.

Irrational Belief #9—Helplessness. The idea that one's past history is an all important determinant of one's present behavior and that because something once strongly affected one's life, it should indefinitely have similar effect.
Irrational Belief #10—Perfectionism. The idea that there is invariably a right, precise, and perfect solution to human problems and that it is catastrophic if this perfect solution is not found. (Jones, 1968, pp. 5-9)
CHAPTER III

METHODOLOGY

The purpose of this chapter is to delineate the way in which the present study was conducted, in an attempt to provide the reader with a greater understanding of the details involved in the collection and subsequent interpretation of the data obtained. Such a task necessarily encompasses a description of the subjects, the test instruments utilized, the procedure of data collection, and the statistical analysis employed.

Subjects

The subjects for the study were obtained from three different settings, and were comprised of two different samples. The first sample consisted of outpatient clientele, while the second sample was comprised of inpatients hospitalized in two different psychiatric facilities.

The first sample consisted of 50 randomly selected individuals reporting for outpatient services at a community mental health clinic. This clinic is part of a large community general hospital complex known as Kent Community Hospital; however, it is housed in a free-standing unit known as Kent Oaks Psychiatric Unit. This unit encompasses not only an outpatient clinic, but is also the site of an acute psychiatric inpatient facility. It is located in Grand Rapids,
Michigan, a midwestern city which has a population of approximately 220,000 people.

The population served by the outpatient clinic are those adults, generally 17 years or older, who reside in Kent County. Services rendered include one-to-one psychotherapy on a scheduled outpatient basis, group psychotherapy, medication review, and psychological testing. Persons whose primary diagnosis is alcoholism, drug addiction, or mental retardation are referred to ancillary service agencies and are thus not served by this agency.

The inpatient component of this hospital complex is a 50-bed acute psychiatric facility, and serves as the source for half of the data collected from hospitalized subjects in this study. A total of 25 female test protocols were randomly obtained here.

In addition to providing services for the county in which it is located, services are contracted for by four outlying counties for inpatient treatment. This unit offers acute psychiatric treatment to both voluntary and involuntary adult patients on a round-the-clock basis.

The range of services includes chemotherapy, psychotherapy, group psychotherapy, and activity therapy, with a wide range of disciplines.

The population served consists of persons, in most cases 17 years of age or older, who live in Kent County and who are in need of acute psychiatric care. The average
length of stay for patients is approximately 17 days. Long-term patients are transferred to the Kalamazoo Regional Psychiatric Hospital (KRPH). Non-county residents are admitted through arrangements with their local Community Mental Health Service Board.

The second half of the group of inpatients sampled, which totals 50 subjects, were randomly selected from KRPH. KRPH is a large state hospital containing 850 beds, and services a total of 13 counties. The estimated population served totals 1,550,300. This hospital is located in Kalamazoo, Michigan, a midwestern community which has a population of 86,000. A total of 25 male test protocols were obtained from the hospital.

Test Instruments

The instruments used in this study were the Beck Depression Inventory (BDI) and the Irrational Beliefs Test (IBT). The present discussion will endeavor to present information relative to these tests (i.e., validity and reliability statistics), and thereby provide the reader with an understanding of the composition and the strengths of these instruments. Each of the tests will be described below.

Beck Depression Inventory

The BDI (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961) is a self-report instrument which has been subjected to rigorous scrutiny and has consequently become very widely
used. Studies have been conducted in both the United States and Europe to establish its reliability. It has been used as a criterion measure in excess of 100 times in published research studies.

The BDI serves as an overall index of the severity of depressive symptomatology, and provides a quantitative assessment. It is a 21-item test, and each item includes four alternative statements, ranging in severity from 0 to 3. The validity and reliability studies were based on a sample of 598 patients, both inpatient and outpatient, at the Philadelphia General Hospital and the Hospital of the University of Pennsylvania. A highly significant split-half reliability of .93 was obtained. Each of the items was found to correlate significantly with the total test score.

The concurrent validity of the BDI is attested to by a number of other studies using clinical ratings and/or other psychometric instruments. Serving as testimony to the validity of the BDI are studies showing significant correlations between the score obtained on the BDI and clinicians' ratings of depression (Beck et al., 1971; Metcalfe & Goldman, 1965; Nussbaum, Wittig, & Hanlon, 1963). A study by Williams, Barlow, and Agras (1972) involved the use of the BDI as well as an objective behavioral measure of depression, and a correlation of .67 between these two measures was reported.

In terms of comparing the BDI with other commonly used psychometric instruments purporting to measure depression,
significant correlations have been reported between scores obtained on the BDI and the Hamilton Rating Scale (Schwab, Bialow, & Holzer, 1967; Williams et al., 1972).

Beck (1972) also contended that the BDI has demonstrated its efficacy and superiority to other tests (the depression scale of the MMPI, the Multiple Affect Adjective Check List, and the Zung Self-Rating Depression Scale) as a result of its ability to discriminate between depressive and anxiety states.

In terms of constructing the BDI, Beck relied upon both psychiatric literature and his own clinical experience. He was consequently able to compose a list of what he labeled "symptom-attitude categories." Beck considered these categories to be characteristic and descriptive of the depressed individual, and thus ones that the depressive will endorse on a self-report instrument such as the BDI. The following list delineates Beck's (1967, p. 189) 21 symptom-attitude categories:

1. Mood
2. Pessimism
3. Sense of failure
4. Lack of satisfaction
5. Guilty feelings
6. Sense of punishment
7. Self-dislike
8. Self-accusations
9. Suicidal wishes
10. Crying spells
11. Irritability
12. Social withdrawal
13. Indecisiveness
14. Distortion of body image
15. Work inhibition
16. Sleep disturbance
17. Fatigability
18. Loss of appetite
19. Weight loss
20. Somatic preoccupation
21. Loss of libido
Irrational Beliefs Test

The IBT is an instrument devised by Jones (1968), and is based upon the 10 "core irrational ideas" as postulated by Ellis. This instrument was devised to validate as measurable constructs the ideas Ellis proposed as irrational beliefs. It serves as an objective measure of the extent to which an individual adheres to these irrational beliefs.

The test is composed of 100 items, 10 items representing each of the 10 irrational beliefs. A statement format is used to present the items, and the tester has available to him/her five possible choices with scaling used according to the Likert (1932) model. With summative scoring encompassing a five-position response scale for each item, it is possible to obtain not only individual scale scores, but a total score summing all scales as well. The 10 scales which serve as a measure of irrationality are entitled: Demand for Approval, High Self-Expectations, Blame-Proneness, Frustration Reactivity, Emotional Irresponsibility, Anxious Overconcern, Problem Avoidance, Dependency, Helplessness, and Perfectionism.

The subject responds to each of the items according to the extent to which he/she agrees or disagrees with that particular statement or item. Higher scores are interpreted as indicative of greater irrationality. In order to eliminate or at least reduce the risk of a deviant or acquiescent response set, the direction of scoring of this test is varied.

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The psychometric properties of the IBT have been subjected to analysis which has resulted in general support of its reliability as well as internal structure. In devising this instrument, Jones (1968) obtained samples from both college student and psychiatric populations and performed a factor analysis of those data obtained. As a result, 10 factors were found which corresponded to each of the scales. All items were found to be loaded at least .30 on the scales to which they had initially been assigned, and, almost invariably, items were reported as being loaded higher on their assigned factor than on any other factor (Nelson, 1977).

In terms of reliability, Jones (1968) performed a test-retest reliability study with an expiration of 24 hours between testing, which resulted in a coefficient of .92. In terms of internal consistency estimates, a range for the individual scales was found to be from .66 to .80. To further corroborate these findings, Trexler and Karst (1972) provided similar results in a study conducted with speech-anxious college students. They reported test-retest reliability of .88 for the full-scale score, with a 2-week expiration period between testing. Values of .48 to .95 were cited as the range indicating the stability of scale scores.

The issue of concurrent validity of the IBT must necessarily be dealt with in terms of inference, and as a derivative of the relationship between irrational beliefs and
psychopathology. Such a state of affairs is necessitated due to the lack of any objective measures of irrationality. Studies concerned with the presumed relationship between irrational cognitions and psychopathology serve to evaluate this issue.

Jones (1968) was able to differentiate, at a highly significant level, hospitalized psychiatric patients from a nonhospitalized adult population by using the IBT and a measure of self-report psychiatric symptomatology. Concurrent validity data indicated a correlation of .61 between the IBT and the self-rating measure of psychiatric problems. The IBT also obtained an average correlation of .42 with clinical factors in Cattell's 16 PF personality scale.

In an experiment conducted by Trexler and Karst (1972), validity of the IBT was demonstrated via predicted changes in IBT total scores. These changes significantly favored rational-emotive therapy over placebo or no treatment. Students who volunteered for the study were found to possess higher scores on the IBT than those students who did not volunteer. It was predicted that those students who did not volunteer to participate in a therapy study were less anxious, and the IBT served well to differentiate these two groups. Results also demonstrated that speech-anxious subjects who were the recipients of rational-emotive therapy showed decreases in their IBT scores, as well as decrements in observed and reported speech anxiety.
It was thus found that the IBT total score correlated significantly with self-report measures of speech anxiety, and although there are presently few studies which attest to the validity of the IBT, the results of the studies conducted thus far have served to generally support the hypotheses underlying the development of the IBT.

One final study to be included, and one which is very pertinent to the present study, is that of Nelson (1977). This study was conducted to examine the hypothesis that certain types of irrational beliefs covary with the severity of depression, and involved the use of the IBT and BDI. These tests were administered to 156 college students. The results of that study indicate that an increase in the severity of depression, as measured by the BDI, is in fact associated with an increase in the degree to which an individual adheres to certain irrational ideas, as measured by the IBT.

As a result of his investigation, Nelson concluded that the following cognitions or ideas are those that correlate most highly with depression: (1) general irrationality, (2) high self-expectations, (3) frustration reactivity, (4) anxious overconcern, and (5) helplessness.

Procedures of Data Collection

Outpatient Sample

In order to obtain the desired data from the outpatient population, the BDI and the IBT were administered to a sample
of persons reporting for outpatient services. The intake worker would interview the potential client according to standard practices for the purpose of recording pertinent data, determining the appropriateness of services rendered by the clinic, and assignment to a therapist for ongoing treatment. The intake worker was also responsible for assigning a diagnosis according to the guidelines and definitions provided in the *Diagnostic and Statistical Manual of Mental Disorders* (DSM II, 1968).

Following the completion of all the foregoing procedures, the subject was presented with a packet containing the BDI and the IBT, in that order (see Appendix A). This packet also included a cover sheet which guaranteed the anonymity of the client and assured his/her confidentiality, provided for initialing to signify informed consent, and provided subject information such as sex, height, and date of birth (see Appendix B). Descriptive information obtained from each subject was necessary so as to prevent retesting of individuals in transition from inpatient status to outpatient follow-up. Upon giving informed consent, the client was then directed to a testing room to complete the tests. The diagnosis of each subject had already been assigned by the intake worker independently of the test results, and both diagnosis and patient status were recorded on the cover sheet.

The intake worker was responsible for determining the eligibility for the client's being given the tests to
complete. With the exception of those unable to participate, tests were administered consecutively until the predetermined total of 50 was achieved. The criteria for administering these tests, both inpatient and outpatient, mandated that the client or patient be sufficiently literate to read and understand the test instructions, and sufficiently lucid and coherent to understand the test items. Consideration was not given as to whether or not the person was taking medication prior to the testing.

Inpatient Sample

In collecting the inpatient data, identical procedures were adhered to by all involved. Attempts were made to administer the test packet, arranged identically to those in the outpatient sample, and included the same face sheet as already described for the outpatient sample. The packet was then administered to consecutive admissions at each of the hospital settings. The tests were administered within 3 days of admission in an attempt to diminish the effects of medications received in the hospital. Consideration was not given to medications taken prior to hospitalization. Diagnostic information was obtained in accordance with the agencies' customary procedures. This meant, as it did with outpatient subjects, that a diagnosis was assigned according to DSM II criteria. The diagnoses were assigned without any knowledge of the results on the IBT or the BDI. Naturally, the
subjects had to meet the criteria for eligibility before being given the test packet. Assistants administering the tests were mental health workers with a considerable number of years experience working in a psychiatric facility, and were responsible for making the determination as to eligibility.

Inasmuch as only male data were available from one of the hospital settings, it was determined that 25 male subjects would be tested from the State Hospital setting, and the other 25 subjects, comprising a total of 50, would consist of females tested at the second hospital setting. This further served to eliminate any possibility of one subject being tested twice. Such an occurrence was conceivable, inasmuch as patients confined in one setting and found to be in need of long-term care were transferred to the State Hospital, which served as the second source of data collection. Consideration of sex differences in this study was extended only insofar as equal representation of males and females in each of the samples was concerned.

Statistical Analysis

The present study was primarily concerned with the discovery and delineation of irrational or maladaptive cognitions which may be presumed not only causative, but characteristic, of the depressed individual. Test scores were made available from an equal number of outpatient and
inpatient subjects, measured on both the IBT and the BDI. An assessment as to the extent to which certain types of irrational beliefs covary with the severity of depression was conducted.

Each of the two samples was grouped into depressed versus nondepressed based on the median score obtained on the BDI for all subjects. All subjects scoring less than or equal to the obtained median were classified as nondepressed, while all persons scoring greater than the median were classified as depressed. This was not only convenient in terms of statistical analysis of the data, but was considered justified in view of the fact that the BDI was not developed for use as a diagnostic tool. It was developed as an assessment technique in the determination as to the severity of dysphoria. Given the fact, therefore, that depression permeates all populations, and since the present study is concerned primarily with those individuals considered to possess a primary depressive disorder, it was believed that only those people manifesting depressive symptomatology of at least moderate proportions should be included in the depressed category or classification.

The statistical procedures employed to analyze the data obtained in this study included a simple correlation analysis, t test for the difference between means, and stepwise regression analysis. Analysis of the data as they pertain to each of the study hypotheses is presented at this point.
Hypothesis 1. Data obtained from the subjects in this study remained divided into two groups, inpatient versus outpatient. A simple correlational analysis was performed in order to provide an overall assessment as to the degree to which irrational beliefs covary with depression, as measured by the IBT and the BDI.

The next step in the analysis of the data relevant to Hypothesis 1 was the t test computed on all variables between the two groups, depressed versus nondepressed, for mean differences. This procedure was applied to both samples. The .05 level of significance was selected as the criterion level for all tests. This test was conducted in order to ascertain which scales of the IBT effectively discriminate depressed versus nondepressed subjects.

Finally, stepwise regression analyses were run on both the inpatient sample and the outpatient sample, in an attempt to account for discriminatory functions of each of the scales of the IBT. The predictive potential of each of the IBT scales was to be delineated according to the contribution made in terms of explaining the variance of the dependent variable, depression.

Of secondary interest to this study was the issue of consistency in classifying depressed and nondepressed subjects according to diagnosis versus BDI cutoff scores. A chi-square analysis was employed to determine the actual degree of consistency.
Hypothesis 2. The mean BDI score was computed on both the outpatient and inpatient samples, as was the mean total score of the IBT. Pearson product-moment correlation coefficients were computed between the BDI depression score and the IBT total score. Fisher $z$ transformations were employed to determine the significance of the coefficients obtained, and a .05 level of statistical significance was arbitrarily chosen.

Hypothesis 3. The mean total score on the IBT was computed for the inpatient subjects and for the outpatient subjects. In order to determine whether or not a statistically significant difference existed between these two scores, a $t$ test was computed. Again, the level of significance was arbitrarily established as .05.

Hypothesis 4. The mean BDI score was computed for the inpatient subjects as well as the outpatient subjects, and a $t$ test was computed to determine whether a statistically significant difference existed between these two scores at an arbitrary .05 level of significance.

Hypothesis 5. As indicated earlier in this study, both the inpatient sample and the outpatient sample were divided into depressed versus nondepressed categories, according to BDI scores. An analysis was then computed to determine whether or not the difference between BDI scores of depressed inpatients was significantly greater than BDI scores of depressed outpatients. In order to do this, a $t$ test of mean differences was computed at the .05 level of significance.
CHAPTER IV

RESULTS

The purpose of this chapter is to present the statistical results obtained from testing the five hypotheses previously described. Data appropriate to the stated hypotheses were analyzed by use of the product-moment correlation, the mean differences obtained from inpatient and outpatient depressed and nondepressed subjects, and stepwise regression. In addition to this, variables of secondary interest to the study's goal were investigated using chi-square analysis and included in order to determine to what extent, if any, they varied in any important and significant way. Statistical techniques employed to test for significance were the Pearson product-moment correlation coefficient and the t test. A significance level of .05 was established in accordance with longstanding scientific practice for acceptance of the hypotheses. To permit determination of significance, z transformations were calculated on all variables involving the Pearson product-moment correlation. Stepwise regression analysis was employed in the service of identification of variation in the dependent variable, depression. This method was chosen for the purposes of analyzing the collective and separate contributions of more than one independent variable, to the variation of the dependent variable.
Of the 50 inpatient subjects tested, ages ranged from 18 to 71 years, with a mean age of 33 years. The mean Irrational Beliefs Test total score was 304, and the mean Beck Depression Inventory score was 18. According to the BDI criterion, determining scores above and below the median, 20 individuals were classified as depressed, 30 designated as nondepressed.

Of the 50 outpatient subjects tested, ages ranged from 17 to 60 years, with a mean age of 32 years. The mean total score on the IBT was found to be 313, and the mean score on the BDI was 22. In accordance with the median BDI cutoff score, 30 subjects were classified as depressed, 20 as non-depressed.

**Hypothesis 1.** A simple correlation analysis was conducted, first on the inpatient data, and revealed Pearson product-moment correlation coefficients for the mean scores of each of the scales on the IBT and the mean BDI score. Table 1 shows mean scores, variances, and standard deviations for the 50 inpatient subjects.

Table 2 presents Pearson product-moment correlation coefficients between IBT scores and the BDI score for the 50 inpatient subjects, and Table 3 provides \( z \) values for those computed correlations. Statistical significance is thereby documented for those correlations achieving a significant level.
Table 1  
Means, Standard Deviations, and Variances on Beck Depression Inventory and Irrational Beliefs Test for 50 Inpatient Subjects

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Variance</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>BDI</td>
<td>17.68</td>
<td>157.20</td>
<td>12.54</td>
</tr>
<tr>
<td>Scale 1</td>
<td>31.76</td>
<td>46.31</td>
<td>6.81</td>
</tr>
<tr>
<td>Scale 2</td>
<td>30.40</td>
<td>57.22</td>
<td>7.56</td>
</tr>
<tr>
<td>Scale 3</td>
<td>28.96</td>
<td>23.39</td>
<td>4.84</td>
</tr>
<tr>
<td>Scale 4</td>
<td>30.04</td>
<td>44.28</td>
<td>6.65</td>
</tr>
<tr>
<td>Scale 5</td>
<td>28.90</td>
<td>23.15</td>
<td>4.81</td>
</tr>
<tr>
<td>Scale 6</td>
<td>33.00</td>
<td>36.90</td>
<td>6.07</td>
</tr>
<tr>
<td>Scale 7</td>
<td>28.86</td>
<td>27.18</td>
<td>5.21</td>
</tr>
<tr>
<td>Scale 8</td>
<td>31.28</td>
<td>25.10</td>
<td>5.01</td>
</tr>
<tr>
<td>Scale 9</td>
<td>30.84</td>
<td>36.67</td>
<td>6.06</td>
</tr>
<tr>
<td>Scale 10</td>
<td>29.82</td>
<td>39.74</td>
<td>6.30</td>
</tr>
<tr>
<td>Total Score</td>
<td>304.48</td>
<td>1143.11</td>
<td>33.81</td>
</tr>
</tbody>
</table>

As delineated in Table 3, statistical significance was achieved by scales 1, 2, 4, 5, 6, 7, 9, and the IBT total score at the .05 level of significance.

An identical analysis was then computed on the 50 outpatient subjects, yielding mean scores, standard deviations, and variances. These are presented in Table 4, while Pearson product-moment correlation coefficients are provided in
Table 2

Pearson Product-Moment Correlation Coefficients Between Irrational Beliefs Test Scores and Beck Depression Inventory Score for 50 Inpatient Subjects

<table>
<thead>
<tr>
<th>Depression (BDI)</th>
<th>Scale 1</th>
<th>Scale 2</th>
<th>Scale 3</th>
<th>Scale 4</th>
<th>Scale 5</th>
<th>Scale 6</th>
<th>Scale 7</th>
<th>Scale 8</th>
<th>Scale 9</th>
<th>Scale 10</th>
<th>Total Score</th>
</tr>
</thead>
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<tr>
<td>BDI</td>
<td>1.00</td>
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</tr>
<tr>
<td>Scale 1</td>
<td></td>
<td>.64</td>
<td>1.00</td>
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<tr>
<td>Scale 2</td>
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<tr>
<td>Scale 3</td>
<td>.16</td>
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<td>Scale 4</td>
<td>.64</td>
<td>.45</td>
<td>.35</td>
<td>.15</td>
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<tr>
<td>Scale 5</td>
<td>.26</td>
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<tr>
<td>Scale 6</td>
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<td>.40</td>
<td>.26</td>
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<td>.45</td>
<td>1.00</td>
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<td>Scale 7</td>
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<td>.29</td>
<td>.42</td>
<td>.45</td>
<td>.29</td>
<td>1.00</td>
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<tr>
<td>Scale 8</td>
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<td>-.04</td>
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<td>.22</td>
<td>.34</td>
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<tr>
<td>Scale 9</td>
<td>.63</td>
<td>.56</td>
<td>.49</td>
<td>.31</td>
<td>.46</td>
<td>.39</td>
<td>.73</td>
<td>.40</td>
<td>.43</td>
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<tr>
<td>Scale 10</td>
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<td>-.30</td>
<td>.14</td>
<td>-.32</td>
<td>.12</td>
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<td>-.13</td>
<td>-.23</td>
<td>-.22</td>
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<td>Depression (BDI)</td>
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<td>Scale 2</td>
<td>Scale 3</td>
<td>Scale 4</td>
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<td>Scale 10</td>
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</tr>
<tr>
<td>BDI</td>
<td>.00</td>
<td>5.18*</td>
<td>4.18</td>
<td>3.58*</td>
<td>3.12</td>
<td>5.25*</td>
<td>1.83*</td>
<td>5.51*</td>
<td>2.56*</td>
<td>1.64*</td>
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*Significant at .05 level.

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Table 4
Means, Standard Deviations, and Variances on Beck Depression Inventory and Irrational Beliefs Test for 50 Outpatient Subjects

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Variance</th>
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<tbody>
<tr>
<td>BDI</td>
<td>22.32</td>
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<tr>
<td>Scale 1</td>
<td>32.24</td>
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<td>5.85</td>
</tr>
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<td>Scale 2</td>
<td>32.20</td>
<td>41.14</td>
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</tr>
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<td>Scale 3</td>
<td>28.94</td>
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<td>32.50</td>
<td>21.72</td>
<td>6.46</td>
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<td>30.62</td>
<td>20.08</td>
<td>4.48</td>
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<td>Scale 6</td>
<td>34.06</td>
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<td>Scale 10</td>
<td>29.80</td>
<td>19.43</td>
<td>4.41</td>
</tr>
<tr>
<td>Total Score</td>
<td>312.84</td>
<td>838.22</td>
<td>28.95</td>
</tr>
</tbody>
</table>

Table 5. The corresponding z transformations are presented in Table 6, with those scales reaching statistical significance delineated.

As indicated in Table 6, scales 4, 5, 6, 7, 9, and the IBT total score achieved statistical significance at the .05 level.
<table>
<thead>
<tr>
<th>Depression (BDI)</th>
<th>Scale 1</th>
<th>Scale 2</th>
<th>Scale 3</th>
<th>Scale 4</th>
<th>Scale 5</th>
<th>Scale 6</th>
<th>Scale 7</th>
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<th>Scale 9</th>
<th>Scale 10</th>
<th>Total Score</th>
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<tbody>
<tr>
<td>BDI</td>
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<tr>
<td>Scale 2</td>
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<td>-.02</td>
<td>-.04</td>
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<td>.17</td>
<td>.03</td>
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<td>.31</td>
<td>.36</td>
<td>.46</td>
<td>.28</td>
<td>.50</td>
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</tr>
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</table>
Table 6

*Scores Computed on Pearson Product-Moment Correlation Coefficients
for Outpatient Subjects*

<table>
<thead>
<tr>
<th>Depression (BDI)</th>
<th>Scale 1</th>
<th>Scale 2</th>
<th>Scale 3</th>
<th>Scale 4</th>
<th>Scale 5</th>
<th>Scale 6</th>
<th>Scale 7</th>
<th>Scale 8</th>
<th>Scale 9</th>
<th>Scale 10</th>
<th>Total Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>BDI</td>
<td>.00</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Scale 1</td>
<td>1.12</td>
<td>.00</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scale 2</td>
<td>1.42*</td>
<td>4.26</td>
<td>.00</td>
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<td></td>
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<tr>
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<td>.72</td>
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<td>-0.22</td>
<td>.00</td>
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</tr>
<tr>
<td>Scale 4</td>
<td>3.00**</td>
<td>2.94</td>
<td>2.72</td>
<td>.58</td>
<td>.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scale 5</td>
<td>2.62**</td>
<td>1.53</td>
<td>1.12</td>
<td>-0.38</td>
<td>2.53</td>
<td>.00</td>
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</tr>
<tr>
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<td>3.11**</td>
<td>2.57</td>
<td>2.62</td>
<td>1.45</td>
<td>2.74</td>
<td>1.55</td>
<td>.00</td>
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<td>Scale 7</td>
<td>2.47**</td>
<td>3.23</td>
<td>2.22</td>
<td>.75</td>
<td>3.75</td>
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<tr>
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<td>.11</td>
<td>1.14</td>
<td>.19</td>
<td>.00</td>
<td></td>
<td></td>
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<tr>
<td>Scale 9</td>
<td>3.84**</td>
<td>1.57</td>
<td>2.17</td>
<td>2.56</td>
<td>3.39</td>
<td>1.98</td>
<td>3.75</td>
<td>1.37</td>
<td>-1.28</td>
<td>.00</td>
<td></td>
</tr>
<tr>
<td>Scale 10</td>
<td>-1.12</td>
<td>-1.09</td>
<td>-0.53</td>
<td>1.12</td>
<td>-0.46</td>
<td>.18</td>
<td>-0.19</td>
<td>-0.64</td>
<td>-0.31</td>
<td>1.49</td>
<td>.00</td>
</tr>
<tr>
<td>Total Score</td>
<td>3.15**</td>
<td>5.07</td>
<td>4.72</td>
<td>2.37</td>
<td>7.05</td>
<td>2.96</td>
<td>5.28</td>
<td>4.48</td>
<td>1.37</td>
<td>5.57</td>
<td>.97</td>
</tr>
</tbody>
</table>

*Significant at .10 level.  **Significant at .05 level.
The next procedure employed in the analyses of data pertaining to Hypothesis 1 consisted of *t* tests to determine whether there exists a significant difference between the mean scale scores on the IBT, comparing depressed and non-depressed inpatient subjects. The mean scores, standard deviations, and probabilities are reported for each of the scales on the IBT. The results are reported in Table 7.

As discerned from Table 7, scales 1, 2, 4, 6, 9, and the total IBT score were found to achieve a .05 level of statistical significance. Although scales 5 and 7 evidenced a .05 level of statistical significance when correlating the IBT and BDI scores, these scales failed to achieve significance in *t*-test computations. It should be noted, however, that scale 5 does contribute an appreciable amount to the variance of the dependent variable.

The identical procedure applied to 50 outpatients yielded results which are presented in Table 8. Again, mean scores, standard deviations, and probabilities are presented for each of the scales on the IBT.

Those scales which achieved statistical significance include scales 4, 5, 6, 9, and the total IBT score. In spite of the fact that scale 7 correlated at the .05 level of significance, as indicated in Table 6, this scale failed to evidence statistical significance when testing the difference between mean scores of depressed versus nondepressed outpatient subjects.
<table>
<thead>
<tr>
<th></th>
<th>Group 1&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Group 2&lt;sup&gt;b&lt;/sup&gt;</th>
<th>Group 1&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Group 2&lt;sup&gt;b&lt;/sup&gt;</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depression (BDI)</td>
<td>9.17</td>
<td>30.45</td>
<td>5.43</td>
<td>8.62</td>
<td>.000</td>
</tr>
<tr>
<td>Scale 1</td>
<td>29.23</td>
<td>35.80</td>
<td>5.44</td>
<td>7.00</td>
<td>.001**</td>
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<tr>
<td>Scale 2</td>
<td>28.17</td>
<td>33.75</td>
<td>6.58</td>
<td>7.87</td>
<td>.009**</td>
</tr>
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<td>29.60</td>
<td>5.06</td>
<td>4.55</td>
<td>.487</td>
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<td>27.30</td>
<td>34.15</td>
<td>4.87</td>
<td>6.96</td>
<td>.000**</td>
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<tr>
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<td>28.43</td>
<td>29.60</td>
<td>4.85</td>
<td>4.80</td>
<td>.407</td>
</tr>
<tr>
<td>Scale 6</td>
<td>30.33</td>
<td>37.00</td>
<td>4.73</td>
<td>5.74</td>
<td>.000**</td>
</tr>
<tr>
<td>Scale 7</td>
<td>27.80</td>
<td>30.45</td>
<td>4.81</td>
<td>5.51</td>
<td>.078*</td>
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<td>30.80</td>
<td>32.00</td>
<td>5.12</td>
<td>4.88</td>
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<td>34.45</td>
<td>4.96</td>
<td>5.84</td>
<td>.000**</td>
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<td>6.08</td>
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<td>324.65</td>
<td>28.02</td>
<td>32.18</td>
<td>.000**</td>
</tr>
</tbody>
</table>

<sup>a</sup>Group 1 = Nondepressed subjects.

<sup>b</sup>Group 2 = Depressed subjects.

*Significant at .10 level.

**Significant at .05 level.

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<table>
<thead>
<tr>
<th>Mean</th>
<th>Group 1</th>
<th>Group 2</th>
<th>Group 1</th>
<th>Group 2</th>
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<td></td>
<td>a</td>
<td>b</td>
<td>a</td>
<td>b</td>
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<tr>
<td>Depression (BDI)</td>
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<td>5.47</td>
<td>6.45</td>
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<td>3.54</td>
<td>4.66</td>
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<td>5.59</td>
<td>4.77</td>
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<td>6.32</td>
<td>6.62</td>
<td>.055*</td>
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<td>4.61</td>
<td>5.63</td>
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<td>5.49</td>
<td>.001***</td>
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<td>321.53</td>
<td>27.40</td>
<td>27.00</td>
<td>.008***</td>
</tr>
</tbody>
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\(^a\) Group 1 = Nondepressed subjects.

\(^b\) Group 2 = Depressed subjects.

*Significant at .10 level.

**Significant at .05 level.

***Significant at .01 level.
In attempts to determine the contributions of each of the scales of the IBT in terms of the variance of the dependent variable, depression, a stepwise regression analysis was conducted on the 50 inpatient subjects. Given the fact that six of the IBT scales correlated at the .05 level of significance, the stepwise regression program was employed to determine those scales which seemed to contribute the most. Table 9 shows a summary of the percentages obtained.

Table 9

Summary of Stepwise Regression Analysis Conducted on 50 Inpatient Subjects

<table>
<thead>
<tr>
<th>Variable</th>
<th>Multiple R</th>
<th>R Square</th>
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</thead>
<tbody>
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<td>.46</td>
</tr>
<tr>
<td>Scale 5</td>
<td>.73</td>
<td>.54</td>
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<td>.72</td>
</tr>
<tr>
<td>Scale 2</td>
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<td>.72</td>
</tr>
<tr>
<td>Scale 10</td>
<td>.85</td>
<td>.72*</td>
</tr>
</tbody>
</table>

*Significant at .05 level.

The total variance accounted for by the IBT is 72 percent, and achieves significance at the .05 level. Of the scales contributing a large majority of that 72 percent is...
the total score. The total score alone accounted for 46 percent of the total variance. Of those scales which reached statistical significance according to \( t \) tests calculated, scales 4, 6, and 1 contribute appreciably to the variance in the dependent variable, depression. Of the remaining scales which achieved statistical significance according to \( t \) tests computed, scales 9 and 2 are of seemingly little value in their contribution to variance according to the stepwise regression analysis. It must be recalled, however, that scales 9 and 2 may very well contribute appreciably to the total variance, but may not contribute anything more than has already been accounted for via the other scales on the IBT.

In order to determine the scales of the IBT which provide the greatest degree of discriminative function in the outpatient sample, stepwise regression was again performed. The percentages are presented in Table 10.

As delineated in Table 10, scale 9 of the IBT contributes by far the greatest proportion of variance. Beyond that, those scales which obtained statistical significance on the \( t \) test and contribute to some extent to the variance in the dependent variable are scales 5 and 6. Scales 4 and the total score appear at first glance to contribute very little if any to the variance; however, these values may be deceptive. It may very well be the case that scales 4 and total score merely overlap with scales 9, 6, and 5, and thus
Summary of Stepwise Regression Analysis Conducted on 50 Outpatient Subjects

<table>
<thead>
<tr>
<th>Variable</th>
<th>Multiple R</th>
<th>R Square</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scale 9</td>
<td>.51</td>
<td>.26</td>
</tr>
<tr>
<td>Scale 10</td>
<td>.58</td>
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<td>Scale 5</td>
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<td>.43</td>
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<td>Scale 8</td>
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<td>.47</td>
</tr>
<tr>
<td>Scale 6</td>
<td>.71</td>
<td>.50</td>
</tr>
<tr>
<td>Scale 1</td>
<td>.73</td>
<td>.53</td>
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<td>.73</td>
<td>.54</td>
</tr>
<tr>
<td>Scale 4</td>
<td>.73</td>
<td>.54</td>
</tr>
<tr>
<td>Total Score</td>
<td>.74</td>
<td>.55*</td>
</tr>
</tbody>
</table>

*Significant at .05 level.

do not contribute anything in addition to these other scales.

The total variance accounted for, including all the scales on the IBT combined, equals 55 percent. This value is found to be significant at the .05 level.

As was mentioned earlier, variables of secondary interest to the present study were analyzed and are related to the preceding presentation of the results. These findings will therefore be presented at this point.

All subjects involved in this study were recipients of a diagnosis, and thus were classified as either depressed or nondepressed. According to this criterion, diagnosis instead of BDI cutoff scores, it was possible to compute t-tests to
determine whether a significant difference was obtained between scores of depressed versus nondepressed subjects on the scales of the IBT. It was thereby possible to determine whether clustering of IBT scales were consistent using diagnostic classifications with those using the BDI criterion to determine depressed versus nondepressed subjects. This analysis was conducted on both inpatient and outpatient groups.

The results of the analysis described above yielded concordance between diagnosis and BDI criterion for inpatient subjects, inasmuch as scales on the IBT which were found to be statistically significant using BDI tests scores were identical to those using diagnosis. Scales 1, 2, 4, 6, 9, and the total score were thus found to be significant using diagnostic criterion.

Upon analysis of outpatient data, the results were not as compatible. Of the five IBT scales which achieved statistical significance using BDI scores as the criterion for classification, only two scales achieved significance using diagnosis as classification criterion. These were scales 5 and 9.

Due to the inconsistent results obtained, a two-way cross-tabulation was computed between diagnosis and depressed-type according to the BDI, for both inpatient and outpatient subjects. Tables 11 and 12 present these data.

A chi-square analysis was then computed on both the inpatient and outpatient values presented, and the following

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results were obtained.

Upon computing the chi-square test on the inpatient data, a value of 22.02 was obtained with 1 degree of freedom, and significance of .000. These results attest to the fact that dependence exists between diagnosis and depressed-type.

Classification of depressed versus nondepressed subjects was
thus consistent using diagnosis versus scores on the BDI.

The same analysis was then computed on the outpatient data, and a chi-square value of 1.56 was obtained with 1 degree of freedom, and significance of .21. The conclusion to be drawn from these results is that independence exists between diagnosis and depressed-type for outpatient subjects. Classification of depressed versus nondepressed was found to be inconsistent using diagnosis versus BDI scores. The obvious discrepancy in terms of diagnosis of outpatient subjects was in the direction of false negatives. Individuals scoring in the depressed range on the BDI were thus being diagnosed as nondepressed.

In order to rule out the possibility of a disproportionate spread of scores on the BDI which as a result of the established cutoff score might have caused the inconsistencies noted above, a print-out of the frequency of BDI scores was obtained. It was concluded that there was in fact a relatively equal spread in terms of frequency of BDI scores, and that the median cutoff score of 18 was not responsible for the discrepancy documented above.

**Hypothesis 2.** As may be observed in Tables 2 and 3, the Pearson product-moment correlation coefficient and the corresponding \( z \) score for the mean BDI and the mean total score on the IBT are .68 and 5.66, respectively, for the inpatient subjects. Statistical significance was established at the 5-percent level.
Outpatient statistics pertinent to Hypothesis 2 may be obtained from Tables 5 and 6. The Pearson product-moment correlation coefficient was found to be .43, with a corresponding $z$ score of 3.15. Statistical significance was achieved at the 5-percent level.

Sufficient evidence was thus obtained to warrant rejection of the null hypothesis, which maintained that the mean BDI score would not significantly covary with the IBT total score in both samples.

**Hypothesis 3.** The mean total score on the IBT may be found in Table 1 for inpatient subjects, and is documented as 304.48. The outpatient mean total score of the IBT was reported in Table 4 as 312.84. A $t$ test computed on the difference between these two means yields a probability of .187, which does not reach a statistically significant level. In view of these findings, it was not possible to reject the null hypothesis, which postulated that the IBT mean total score for inpatient subjects would not be significantly greater than the IBT mean total score for outpatient subjects.

**Hypothesis 4.** The mean score obtained on the BDI for inpatient subjects is presented in Table 1 as 17.68. The BDI mean score for outpatient subjects is recorded in Table 4 as 22.32. A $t$ test was computed on the difference between these two means, and the results indicate that the computed probability of .06 did not achieve statistical significance at the .05 level. It was therefore not possible to reject
the null hypothesis, which maintained that the mean BDI score obtained from outpatient subjects would not be significantly greater than the mean BDI score obtained from inpatient subjects. It should be noted, however, that the probability obtained in this \( t \) test did closely approximate the .05 level of statistical significance, and was significant at the 10-percent level.

**Hypothesis 5.** Out of the total of 50 inpatient subjects tested, 20 of these subjects scored within the depressed range of the BDI, according to the predetermined criterion. The mean BDI score for these 20 subjects was found to be 30.45, with a standard deviation of 8.62.

Out of the total of 50 outpatient subjects tested, 30 of these subjects scored sufficiently high on the BDI to warrant their classification as depressed according to the criterion established for the present study. The mean BDI score for these 30 subjects was 29.90, with a standard deviation of 6.82.

A \( t \) test was then computed so as to determine whether or not there existed a statistically significant difference between these two mean scores. The result was a probability of .80, which failed to achieve a .05 level of statistical significance. Given these results, the null hypothesis, which indicated that depressed inpatient subjects would not score significantly higher on the BDI than depressed outpatient subjects, was not rejected.
CHAPTER V

DISCUSSION AND IMPLICATIONS

The purpose of this chapter will be to provide summary data and discussion for each of the research hypotheses examined in the present study.

Summary of Results

Hypothesis 1 postulates that there exists a clustering of irrational beliefs characteristically adhered to by depressed inpatients, and a different set of irrational beliefs characteristic of depressed outpatients.

Interpretation of correlational analyses and t tests performed on Beck Depression Inventory (BDI) scores and Irrational Beliefs Test (IBT) scores indicate that scales 4, 6, 9, and the total scale score were significant in both inpatient and outpatient samples. In addition, scales 1 and 2 were significant in the inpatient sample, while scale 5 was significant in the outpatient sample. The results of these analyses thus lend support to the hypothesis of qualitative differences between depressed inpatients and outpatients, rather than a purely quantitative interpretation.

Furthermore, it should be noted here that these results also differ qualitatively from those obtained by Nelson (1977). His findings indicated that the strongest correlates
of depression in a college population of 156 subjects were scales 2, 4, 6, 9, and the total score. Although there exists some degree of overlap in terms of the configuration of the scales characteristic of depressed individuals selected from different settings, qualitative differences are also evident.

Discussion

The issue of a unitary versus a binary concept of depression, which the present study addresses, is controversial and has prevailed for a number of years. This disagreement concerns the nature of depression and is particularly prominent among British authors (Eysenck, 1970; Hamilton, 1970; Kendell, 1970; and others). Eysenck (1970) serves as perhaps the most potent representative of one of these schools of thought, the binary, and advocates the perception of psychotic depression as qualitatively different than depression of a neurotic nature. The other school of thought advances Kendell (1970) as its major proponent, and espouses the belief that psychotic depression and neurotic depression occupy different ends of a single continuum of increasing severity in the disturbance of functioning. Such an orientation appears consistent with that of Beck (1967), who contended that the thought content of the psychotic is similar to that of the neurotic.

Beck contended that the general themes in neuroses and
psychoses are similar, and that the difference between these two pathological states lies in varying degrees of cognitive impairment. He proposed that the psychotic evidences more extreme and improbable thought content in the form of more intense and compelling erroneous ideation. Conceptual errors such as arbitrary inference, selective abstraction, and over-generalization are also expected to occur more frequently and extremely with psychotics than neurotics.

The weight of the evidence, however, as summarized by Eysenck (1970), appears to favor the binary concept of depression. The results of the present study, given the qualitative differences found in different settings, seem to be consistent for the most part with the binary theory. In order to delineate the differences obtained between depressed samples in this study, a presentation must be provided as to the nature of the irrational ideas endorsed by depressed subjects. This must necessarily include those beliefs characteristic of both inpatient and outpatient subjects, as well as those endorsed exclusively by one group of subjects or the other. The underlying irrational beliefs endorsed by both groups will be presented first.

Irrational Beliefs Endorsed by Both Groups

Those scales on the IBT which were found to be characteristic of both inpatient and outpatient depressed subjects were scales 4, 6, 9, and the total score. It should be noted
here that these scales were also endorsed by the depressed college population sampled by Nelson in 1977. Each of these scales will be described below in terms of the nature of the corresponding irrational ideation (Jones, 1968; Nelson, 1977).

**Frustration reactivity.** Scale 4 may be considered a measure of frustration reactivity. This scale measures the degree to which a person defines his/her preferences as dire needs, and thereby uses this belief to maintain emotional disturbance. It is a measure of the extent to which people believe circumstances are terrible when they are not as they would like them to be.

**Anxious overconcern.** Scale 6 serves as a measure of anxious overconcern which in actuality serves as a measure of the extent to which people anticipate danger and consequently upset themselves, becoming overconcerned with and exaggerating the chances of occurrence of a dreaded event.

**Helplessness.** Scale 9 assesses the degree of helplessness which the individual is endorsing, with primary emphasis being placed upon past history, and the faulty belief that because something once strongly affected one's life, it will ever more continue to do so. A denial of responsibility for controlling one's own destiny is involved, and the result may very well be a self-indulgent and problem-avoidant mode of functioning which perpetuates emotional maladjustment.

**General irrationality.** The total score serves as a
measure of general irrationality adhered to by the subject responding to the test items.

To summarize this section, depressed individuals in settings extending from a college population to psychiatrically hospitalized patients share some degree of cognitive distortion. They may be characterized as entertaining faulty cognitions which are considered generally irrational, while at the same time specificity of misconceptions may also be discerned.

Externalization of responsibility serves as a means of perpetuating a helpless mode of adaptation, and this behavior is rendered possible because of the emphatic belief that the past must dictate the present and future life of the depressive. Problem-avoidant behavioral patterns may then easily develop and become self-perpetuating.

Not only do depressives place a high value on past experiences, but they also ruminate as to what is going to transpire at some point in the future, anticipating that it will in fact be something catastrophic. Depression is thus the consequence of a negative and pessimistic outlook regarding the future.

Depressed individuals operate within the context of perceiving irrevocable influences of past experiences, as well as anticipating dangerous and terrible future occurrences, as they maintain an experiential state which is defined according to needs rather than preferences. According to
the results of this study, the depressive is an individual who operates in a very self-indulgent and demanding fashion. By defining desires as needs and demanding that these needs be gratified, the depressed person is more or less predisposed to failure, dissatisfaction, and impending emotional upset. Considering the import of the depressive's perception of the unchangeable influence of past experiences, impending disaster in terms of futuristic thinking, and demands for gratification of "needs" in order to sustain self-worth, the impact of Beck's cognitive triad in depression becomes even more illuminated. The depressed individual's cognitive structures are dominated by a negative outlook on the present, future, and self.

In addition to noting the consistency of cognitive distortion shared by depressed subjects, it is now possible to document the differences in cognitive structures between inpatient and outpatient subjects. Although scales 4, 6, 9, and the total on the IBT were endorsed in all three of the settings previously described, the extent to which these scales or irrational ideas were endorsed and represented within each setting varied.

Irrational Beliefs Endorsed by Inpatient Subjects

In the inpatient setting, the scale which appears to contribute by far the most in terms of the variance in the dependent variable, depression, is the total score. This
finding reflects the excessive level of general irrationality existent, and is not altogether surprising in view of the nature of the population sampled. As was indicated earlier, the population sampled consisted of acutely and chronically psychotic individuals. These results thereby tend to support Beck's (1967) contention of a significantly greater degree of conceptual disorganization among psychotics than neurotics.

Beyond general irrationality, the depressive confined in psychiatric hospitals used in the present study may best be characterized as experiencing frustration reactivity, anxious overconcern, a demand for approval, helplessness, and high self-expectations. These attributes may be assigned in the hierarchical order just specified, although caution must be exercised in assigning such a hierarchy in view of potential overlap of IBT scales, as well as the relatively small values obtained beyond general irrationality.

As may already be discerned, there are two faulty cognitions or beliefs held by inpatient subjects which were not held by outpatient subjects. Both of these are related to frustration reactivity, which is the proclivity on the part of the depressive to label desires as needs.

The first of these irrational ideations indicates that the hospitalized depressive is a person who defines love and approval as necessities rather than preferences or desires. The problem then encountered is that in order for one to be loved, one must always be lovable; this belief naturally
imposes impossible demands upon the individual.

The other misconception, which again is strongly related to the irrational belief just described above as well as to frustration reactivity, is the establishment of excessively high self-expectations. Depressed individuals fallaciously believe that they must be thoroughly competent in all respects and all endeavors. By comparing oneself with others, one becomes other-directed instead of self-directed. As a result of being overly concerned with achievement, individuals become fearful of extending themselves. Consequently failing to take chances for fear of making mistakes or failing, the individual then becomes constricted and achievement is ironically stifled.

It should also be noted here that emotional irresponsibility contributes to the variance of depression; however, this is a feature which was found to be characteristic to some extent of all inpatient subjects tested. Depressed-type (depressed versus nondepressed) was not of significance nor discriminatory in respect to this faulty ideation. It is thereby existent in both depressed and nondepressed inpatient subjects.

One important objective of the present study was to isolate those faulty cognitions which are characteristic of depressed inpatient subjects and which serve to maintain the dysphoric state in order that psychotherapeutic efforts to resolve the maladjustment might be facilitated. The results
of this study indicate that there do exist specific irrational beliefs serving as the underlying mechanisms in depression which are deserving of special attention or emphasis in the psychotherapeutic process. Such an approach is reminiscent of the theory espoused by Jones (1968) and Raimy (1975), and alluded to in earlier sections of this study.

When working with depressed inpatients similar in nature and composition to the populations described in the present study, one would benefit from attending to the degree to which those individuals adhered to all of the core irrational beliefs as delineated by Ellis. In the process of such an analysis, it would also appear beneficial, as indicated by the results of this study, to pay particular attention to the tendency on the part of the patient to perpetuate and maintain emotional maladjustment via his/her definition of things as terrible if they do not coincide with his/her wishes or desires. This tendency is very likely to be operative in maintaining faulty cognitions involved in overconcern about possible future events, defining love and approval as dire needs, insisting upon total competence and thus setting high standards for oneself, and attributing ominously influential powers to past experiences.

Irrational Beliefs Endorsed by Outpatient Subjects

Of the irrational ideation characteristic of outpatient subjects, and which contributes by far the most in terms of
the variance in depression, helplessness was found to be a very prominent feature. Beyond this, the depressed individuals sampled in the present study may be characterized as experiencing and endorsing emotional irresponsibility, anxious overconcern, frustration reactivity, and general irrationality. Although these characteristics are presented in this hierarchical fashion, from the most characteristic to the least, caution must again be emphasized in order to avoid over-interpretation of the contribution of each of these attributes beyond that of helplessness. Over-interpretation is possible due to potential overlap of IBT scales, and the relatively low values obtained on scales beyond helplessness.

As was the case with the inpatient subjects, results from the outpatient sample provide a characteristic of outpatient subjects exclusively applicable to those individuals classified as depressed. The characteristic being alluded to is that of emotional irresponsibility. Although this misconception was found to be operative to some extent in both depressed and nondepressed inpatient subjects, it was found to be significant in, and thus characteristic of, only the depressed outpatient subjects.

Emotional irresponsibility reflects the degree to which depressed individuals believe they have no control whatsoever over their emotions. Rather than endorsing the belief that one is capable of controlling one's own emotions, responsibility and control are disavowed and depressed persons...
believe that they cannot help feeling as they do. The issue of external cause in the etiology and maintenance of emotional disturbance is central to this belief, and such meditation allows for projection of responsibility onto others.

Again, the present study appears to have been successful in isolating faulty cognitions significantly related to the etiology and maintenance of depression. Psychotherapeutic attempts to aid in the resolution of dysphoria in outpatient clients similar in nature and composition to the population described in this study indicate that particular attention and emphasis be placed upon the concept of helplessness. This concept has already been described earlier in the present study, and a direct attack upon what appears to be the foundational misconception operative in depressed outpatient subjects is consistent with Raimy's (1975) theoretical position.

The therapeutic implications of the value obtained by this faulty belief, using stepwise regression analysis, indicate that the therapist may benefit appreciably from an investigation into the way in which clients are reindoctrinating themselves with the faulty belief that the past dictates their present as well as their future. The application of this irrational idea, which is intimately related to emotional irresponsibility, is apparently responsible for the development and perpetuation of overconcern regarding future occurrences. The belief that things are terrible if
not exactly how one would like them to be, and even the degree to which total general irrationality is endorsed, were major factors.

An interesting note to include at this point regards results relating to perfectionism and dependency, and pertaining to both inpatient and outpatient subjects. Perfectionism is the term used to describe the idea that there exists perfect control over things or a perfect solution to human problems, while dependency is described as the idea that there exists a need to rely upon someone or something stronger than oneself. Contrary to the psychoanalytical conception of depression as a regression to, or fixation upon, oral dependency needs, these characteristics were not found to be representative of depressed individuals. The results instead evidenced either a very low correlation or an inverse relationship with the scales representative of these two attributes.

As a final note to the composition of irrational cognitions characteristic of depressed individuals, and one which transcends the boundaries constructed around all three settings (college students, inpatient subjects, and outpatient subjects), is the concept of problem avoidance. Although not achieving statistical significance at the $p = .05$ level, this faulty belief attained significance in all three samples at the $p = .10$ level. It is thus worthy of consideration when working with depressives wherever
encountered.

To summarize what has been presented thus far as it pertains to Hypothesis 1, the present study relates to some extent to the issue of a binary versus a unitary conception of depression, and would seem to provide some enlightening information in regard to this controversy. The final results serve to illustrate the fact that this is not a clear-cut issue, and difficulties are encountered in attempts to discover not only separate and distinct ideation characteristic of one group or the other, but also in the discovery of mutually shared ideational content. In general, however, the results of this study lend support to the binary concept of depression.

A final consideration to be entertained in regard to this issue appears to revolve around personalization versus externalization. The results of the present study indicate that those beliefs endorsed by depressed inpatient subjects, scales 1 and 2, reflect the degree to which these subjects are personalized rather than externally oriented. The basic involvement would appear to be with the self, in terms of high standards and inner goals. It may very well be the case that coping with internal stress renders a greater likelihood of culminating in hospitalization than does evaluating and working with external problems (Jones, 1968). The recognition of personalized versus externalized orientations is therefore an important consideration, when dealing with
depressed inpatients versus depressed outpatients, in terms of therapeutic emphasis and direction in attempting to modify underlying irrational beliefs.

The Covariance of Depression with General Irrationality

Hypothesis 2 contends that the mean BDI score would significantly covary with the mean total score on the IBT, in both samples. As was indicated in earlier sections of this study, sufficient evidence was obtained to reject the null hypothesis for both inpatient and outpatient groups sampled.

Although research data in regard to the issue underlying Hypothesis 2 are scarce, the findings from the present study are consistent with those of Nelson (1977). Data obtained from a sample consisting of 156 college students indicated that an increase in the severity of depression as measured by the BDI was associated with an increase in the total IBT score. The extent to which the total IBT score measures general irrationality and the nature of that score to depressed inpatient, outpatient, and college subjects sampled has already been addressed and encompassed within the results of Hypothesis 1. Again, general irrationality was documented in all three samples tested, and primary import was attributed to this characteristic in the inpatient group.
Measures of General Irrationality

Hypothesis 3 postulates that the mean total score on the IBT would be significantly greater for inpatient subjects than the mean total score on the IBT for outpatient subjects. Upon computing a t test of the difference between these two means, it was found that statistical significance was not achieved, and therefore the null hypothesis could not be rejected. Such findings are not contradictory to the validation studies conducted by Jones (1968) in the formulation of the IBT, inasmuch as he differentiated between a hospitalized psychiatric sample and that of an adult normal sample on the basis of IBT scores. The present study was concerned with inpatient and outpatient psychiatric populations, not normal adults.

Again, these findings lend support to the notion of qualitative rather than quantitative differences between inpatient and outpatient groups. The total IBT score is a measure of general irrationality, and the findings of the present study indicate that psychiatrically hospitalized subjects do not think in a more generally irrational way than outpatient subjects. In view of the fact, however, that significant differences were achieved on various scales of the IBT, one must conclude that the differences between cognitions characteristic of inpatient versus outpatient subjects are of a qualitative nature. Such an interpretation is consistent with the philosophical foundation upon which
RET is built. Ellis postulated the 10 core irrational beliefs incorporated in the IBT as common in our culture, inherently irrational, and conducive to maladjustment and emotional disturbance (Jones, 1968). These beliefs transcend all populations, although it appears that they are not equally endorsed or represented within inpatient and outpatient subjects alike.

**Depression Gradients of Outpatient and Inpatient Subjects**

Hypothesis 4 proposes that the mean BDI score will be significantly greater for outpatient subjects than for inpatient subjects. This proposition was put forth primarily because of the composition or nature of the groups being sampled. It was felt that the number of outpatient subjects scoring in the depressed range of the BDI would surpass the number of inpatient subjects scoring as depressed. Such a speculation was based upon the assumption that the majority of inpatient subjects tested at the two hospital settings suffer from primary-process thought disorders, while the majority of presenting problems within the outpatient subjects was suspected to be of an affective nature.

The results obtained from a t test of the difference between these means failed to reach significance, and it is therefore concluded that although there were more outpatient subjects who obtained depressed scores than inpatient subjects, the results were not significant. These results
appear to lend support to the contention by Gallant and Simpson (1976) that depression is the presenting problem in approximately one-half of all admissions to psychiatric institutions. Consequently, the incidence of depression is probably more prominent, than was assumed by this writer, in the hospital settings involved in the present study.

The findings from this analysis also lend support to the contention that diagnostic emphasis in the United States may in fact be biased toward diagnosis of thought process disorders, thereby minimizing the prevalence of affective disturbances. As was contended earlier in this study, the incidence of depression in the United States is very high, while the prevalence appears to be increasing rapidly. A project concerned with just this issue was conducted in 1964 and was entitled "Diagnosis of Mental Disorder in the United States and United Kingdom." The results of that project as well as subsequent publications indicate that American psychiatrists apply the diagnosis of schizophrenia significantly more often and the diagnosis of depression significantly less often than British psychiatrists. As a result of increased sensitivity to thought process disorders, the diagnosis of affective disturbances is minimized. One may therefore speculate as to a higher incidence of depression in the inpatient facilities utilized in this study than is reflected by the diagnoses assigned.

At this point it would seem appropriate and interesting
to reiterate the findings reported in an earlier section of the present study, involving an analysis of the consistency between scores obtained on the BDI and the diagnosis assigned to both inpatient and outpatient subjects.

Although the assignment of a depressive diagnosis in the inpatient sample coincided with the depression score on the BDI, such was not the case with the outpatient sample. As was already indicated earlier, the tendency was to assign a diagnosis of nondepressed, while in fact the person was scoring in at least the middle of the moderate range of the BDI. Such a score reflects a clinically significant degree of depression. This phenomenon may be explained partially by the fact that psychotic diagnoses are somewhat easier to diagnose, as attested to by superiority in terms of validity studies conducted (Schuyler, 1976). On the other hand, due consideration must be given to the possibility of an over-emphasis on thought process disorders resulting in a de-emphasis on affective disturbances. This would seem to be an important consideration of which to remain cognizant while evaluating and subsequently diagnosing clientele.

**Severity of Depression Determined to be of Clinical Significance**

Hypothesis 5 postulates that of those subjects classified as depressed in accordance with BDI scores, inpatient subjects will score significantly higher than outpatient subjects. This hypothesis was based upon the assumption
that even though more outpatient subjects would score within the depressed range or closer to the depressed cutoff score than inpatient subjects, the degree of depression operative within the inpatient group would be of a much greater magnitude than that of the depressed outpatient group. The results obtained using t-test computations failed to confirm the research hypothesis.

Consequently, one must conclude that the degree of severity of depression operative in the inpatient and outpatient samples varies not along a continuum (Beck, 1967; Metcalfe & Goldman, 1965), but instead differs in the nature or composition of the cognitions maintaining the disorder (Eysenck, 1970). This conclusion is based upon the fact that differences in severity of depression were not revealed between inpatients and outpatients; however, variations in terms of irrational ideation were found to be existent.

**Summary and Limitations**

In summary, the present study delineated the ways in which depressed inpatient subjects tend to differ in their cognitive structures from those of depressed outpatient subjects. An appreciable accumulation of evidence supporting Beck's contention of information-processing errors committed by depressed people has been assembled; however, there has been an accompanying negligence in unveiling the underlying attitudes which permit these perceptual and cognitive
distortions to occur and persist. The present study investigated these faulty cognitions and extended its goal to the investigation of those specific types of irrational beliefs which underlie the depressive disorder. Finally, attempts were made to delineate ways in which faulty cognitions differed between inpatient and outpatient subjects classified as depressed, and the therapeutic implications of those differences. A brief comparison was also made with a "normal" sample consisting of college subjects sampled by Nelson (1977).

In general, the results of this study not only served to illustrate the ways in which faulty cognitions differ between inpatient and outpatient groups, but also served as further confirmation of the validity of Ellis' proposed irrational beliefs as measurable constructs. It is anticipated that subsequent research will be stimulated by the findings of the present study.

Limitations of this study which may be taken into consideration in subsequent studies include the use of a self-report measure of depression to classify individuals as depressed versus nondepressed. Additional measures may need to be incorporated to assess the presence of dysphoria (i.e., behavioral measurement and assessment, clinician's rating scale, etc.).

Subsequent research may also benefit by controlling for sex variables more adequately, as well as age. It should
be noted, however, that Jones (1968) found no significant relationship between age and irrational beliefs as measured by the IBT, and sex differences were found to be specific to only certain scales. Nelson (1977) found no significant differences between male and female scores of the IBT, other than differences on scale 1 at the .05 level of significance.

Another feature which would possibly be worthy of incorporation into the research designs of subsequent studies would be more diversification in terms of outpatient and possibly even inpatient settings. All of the outpatient subjects were extracted from one mental health clinic, while inpatient subjects were sampled from two hospitals very similar in nature and servicing a large number of chronically psychotic patients.

**Suggested Further Research**

In view of the fact that the BDI may be questioned as to its effectiveness in differentiating depressed versus nondepressed subjects, subsequent research would benefit by combining two or more instruments to assess gradients of depression. Validity of future research may be enhanced by either combining tests such as the BDI and the 16 PF, or in employing an instrument such as the MMPI first to serve as a screening tool before administering the BDI. In this way, it may be possible to provide more potent statistical results.
A great deal of work conducted thus far in the area of cognitively oriented theory has been of a correlational nature. In order to enable causal inferences to be drawn, experimental studies need to be further explored.

A depression reduction experiment could serve as a take-off from the present study, treating clinically depressed individuals according to the cognitively oriented philosophy (RET). The study could be conducted with inpatients and/or outpatients, with the primary focus of treatment concentrating on the modification of cognitive sets. Those irrational ideas found in the present study to be characteristic of depressed individuals would serve as the primary target at which treatment could be directed. Pre-treatment assessment as to the affective level or gradient of depression could be established, and compared with the post-treatment level. The efficacy of the treatment program would be contingent upon successful modification of the depressive (affective) state. Such a study would serve as additional confirmation of the critical role played by the irrational ideation elucidated upon in this study and believed to be characteristic of clinically depressed patients.

Another variation could be introduced into subsequent research which would involve the application of a cognitively oriented treatment approach. Rather than being primarily concerned with base level and post-treatment observations, treatment applications of the cognitive approach with
emphasis upon irrational beliefs found in the present study to characterize depressed subjects could be compared with more traditional psychotherapies. Such a study could even encompass a comparison of the effectiveness of cognitively oriented psychotherapy with that of the somatic therapies and/or no treatment.

In accordance with the cognitively oriented approach to depression espoused by Beck and Ellis, one must necessarily be concerned with the distinction between external events per se and external events as they are perceived by the depressed subject. In order to more accurately determine that distinction, future research would benefit from incorporation of evaluative methods other than self-report. Such an endeavor might very well include the incorporation of behavioral techniques.

Ellis (Ellis & Harper, 1961) has addressed the importance of changing both irrational beliefs and overt behavior in psychotherapy in his theoretical statements regarding RET, while Bergin and Strupp (1970) have attested to the growing interest in cognitive changes in behavior therapy. This orientation is also consistent with Raimy's (1975) atheoretical postulation, in which he contended that the main goal of all psychotherapies is the modification of misconceptions.

A merger encompassing both behavioral and cognitive modification is conducive to the development of longitudinal studies with good follow-up data. The IBT could be employed
in such studies and the irrational beliefs emphasized in the present study as characteristic of depressed subjects could be monitored over time. The determination as to cognitive changes and the sequencing among them could be better analyzed. Particular attention could then be attributed to changes in perception or cognitions preceding the onset of clinical depression.

In addition to this, it would serve well to then assess the extent to which changes in the depressive state produced by cognitive modification were maintained after termination of the treatment.

As was mentioned in the first chapter of this study, the results of the data analyses performed in the present study may not be considered causative, primarily because of the correlational nature of the design. The findings nonetheless indicate confirmation of the significantly functional relationship between depression and various irrational beliefs as postulated by Ellis. Consequently, additional contribution is made to the confirmation of Ellis' theoretical system as it pertains to the clinical syndrome of depression. The need for continued research into this complex but intriguing area of psychopathology is apparent.
APPENDIX A

Beck Depression Inventory

Irrational Beliefs Test
Instructions to the Beck Inventory

On this questionnaire are groups of statements. Please read each group of statements carefully. Then pick out the one statement in each group which best describes the way you have been feeling the PAST WEEK, INCLUDING TODAY! Circle the number beside the statement you picked. If several statements in the group seem to apply equally well, circle each one. Be sure to read all the statements in each group before making your choice.
BECK INVENTORY

(  ) 0 I do not feel sad.
1 I feel sad.
2 I am sad all the time and I can't snap out of it.
3 I am so sad or unhappy that I can't stand it.

(  ) 0 I am not particularly discouraged about the future.
1 I feel discouraged about the future.
2 I feel I have nothing to look forward to.
3 I feel that the future is hopeless and that things cannot improve.

(  ) 0 I do not feel like a failure.
1 I feel I have failed more than the average person.
2 As I look back on my life, all I can see is a lot of failures.
3 I feel I am a complete failure as a person.

(  ) 0 I get as much satisfaction out of things as I used to.
1 I don't enjoy things the way I used to.
2 I don't get real satisfaction out of anything anymore.
3 I am dissatisfied or bored with everything.

(  ) 0 I don't feel particularly guilty.
1 I feel guilty a good part of the time.
2 I feel quite guilty most of the time.
3 I feel guilty all of the time.

(  ) 0 I don't feel I am being punished.
1 I feel I may be punished.
2 I expect to be punished.
3 I feel I am being punished.

(  ) 0 I don't feel disappointed in myself.
1 I am disappointed in myself.
2 I am disgusted with myself.
3 I hate myself.

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

(  ) 0 I don't have any thoughts of killing myself.
1 I have thoughts of killing myself, but I would not carry them out.
2 I would like to kill myself.
3 I would kill myself if I had the chance.
0 I don't cry anymore than usual.
1 I cry more now than I used to.
2 I cry all the time now.
3 I used to be able to cry, but now I can't cry even though I want to.

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

0 I have not lost interest in other people.
1 I am less interested in other people than I used to be.
2 I have lost most of my interest in other people.
3 I have lost all of my interest in other people.

0 I make decisions about as well as I ever could.
1 I put off making decisions more than I used to.
2 I have greater difficulty in making decisions than before.
3 I can't make decisions at all anymore.

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

0 I can work about as well as before.
1 It takes an extra effort to get started at doing something.
2 I have to push myself very hard to do anything.
3 I can't do any work at all.

0 I can sleep as well as usual.
1 I don't sleep as well as I used to.
2 I wake up 1-2 hours earlier than usual and find it hard to get back to sleep.
3 I wake up several hours earlier than I used to and cannot get back to sleep.

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

0 My appetite is no worse than usual.
1 My appetite is not as good as it used to be.
2 My appetite is much worse now.
3 I have no appetite at all anymore.
( ) 0 I haven't lost much weight, if any, lately.
1 I have lost more than 5 pounds.
2 I have lost more than 10 pounds.
3 I have lost more than 15 pounds.

I am purposely trying to lose weight by eating less.

_____ Yes  _____ No

( ) 0 I am no more worried about my health than usual.
1 I am worried about physical problems such as aches and pains; or upset stomach; or constipation.
2 I am very worried about physical problems and it's hard to think of much else.
3 I am so worried about my physical problems that I cannot think about anything else.

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

__________________________
Time elapsed since
clinical interview
INSTRUCTIONS:

This is an inventory of the way you believe and feel about various things. There are a number of statements with which you will tend to agree or disagree. Answers are to be circled in either agreement or disagreement.

A = Strongly Agree
a = Agree
n = Neither
d = Disagree
D = Strongly disagree

It is not necessary to think over any item very long. Mark your answer quickly and go on to the next statement.

Be sure to mark how you actually feel about the statement, not how you think you should feel.

Try to avoid the neutral or "n" response as much as possible. Select this answer only if you really cannot decide whether you tend to agree or disagree with a statement.
1) It is important to me that others approve of me.
2) I hate to fail at anything.
3) People who do wrong deserve what they get.
4) I usually accept what happens philosophically.
5) If a person wants to, he can be happy under almost any circumstances.
6) I have a fear of some things that often bothers me.
7) I usually put off important decisions.
8) Everyone needs someone he can depend on for help and advice.
9) "A zebra cannot change his stripes."
10) There is a right way to do everything.
11) I like the respect of others, but I don't have to have it.
12) I avoid things I cannot do well.
13) Too many evil persons escape the punishment they deserve.
14) Frustrations don't upset me.
15) People are disturbed not by situations, but by the view they take of them.
16) I feel little anxiety over unexpected dangers of future events.
17) I try to go ahead and get irksome tasks behind me when they come up.
18) I try to consult an authority on important decisions.
19) It is almost impossible to overcome the influences of the past.
20) There is no perfect solution to anything.
21) I want everyone to like me.  
22) I don't mind competing in activities where others are better than I.  
23) Those who do wrong deserve to be blamed.  
24) Things should be different from the way they are.  
25) I cause my own moods.  
26) I often can't get my mind off some concern.  
27) I avoid facing my problems.  
28) People need a source of strength outside themselves.  
29) The impact of the past does not last forever.  
30) There is seldom an easy way out of life's difficulties.  
31) I like myself even when many others don't.  
32) I like to succeed at something but I don't feel I have to.  
33) Immorality should be strongly punished.  
34) I often get disturbed over situations I don't like.  
35) People who are miserable have usually made themselves that way.  
36) If I can't keep something from happening, I don't worry about it.  
37) I usually make decisions as promptly as I can.  
38) There are certain people that I depend on greatly.  
39) People overvalue the influence of the past.  
40) Some people will always be with us.  
41) If others dislike me, that's their problem, not mine.  
42) It is highly important to me to be successful in everything I do.

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43) I seldom blame people for their wrongdoing.  A a n d D
44) I usually accept things the way they are, even if I don't like them.  A a n d D
45) A person won't stay angry or blue long unless he keeps himself that way.  A a n d D
46) I can't stand to take chances.  A a n d D
47) Life is too short to spend it doing unpleasant tasks.  A a n d D
48) I like to stand on my own two feet.  A a n d D
49) If I had had different experiences, I could be more like I want to be.  A a n d D
50) Every problem has a correct solution.  A a n d D
51) I find it hard to go against what others think.  A a n d D
52) I enjoy activities for their own sake, no matter how good I am at them.  A a n d D
53) The fear of punishment helps people be good.  A a n d D
54) If things annoy me, I just ignore them.  A a n d D
55) The more problems a person has, the less happy he will be.  A a n d D
56) I am seldom anxious over the future.  A a n d D
57) I seldom put things off.  A a n d D
58) I am the only one who can really understand and face my problems.  A a n d D
59) I seldom think of past experiences as affecting me now.  A a n d D
60) We live in a world of chance and probability.  A a n d D
61) Although I like approval, it's not a real need for me.  A a n d D

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62) It bothers me when others are better than I am at something.  
63) Everyone is basically good.  
64) I do what I can to get what I want and then don't worry about it.  
65) Nothing is upsetting in itself; only the way you interpret it.  
66) I worry a lot about certain things in the future.  
67) It is difficult for me to do unpleasant chores.  
68) I dislike for others to make my decisions for me.  
69) We are slaves to our personal histories.  
70) There is seldom an ideal solution to anything.  
71) I often worry about how much people approve of and accept me.  
72) It upsets me to make mistakes.  
73) It's unfair that the "rain falls on the just and the unjust."  
74) I am fairly easy going about life.  
75) More people should face up to the unpleasantness of life.  
76) Sometimes I can't get a fear off my mind.  
77) A life of ease is seldom very rewarding.  
78) I find it easy to seek advice.  
79) Once something strongly affects your life, it always will.  
80) It is better to look for a practical solution than a perfect one.  
81) I have considerable concern with what people are feeling about me.  
82) I often become quite annoyed over little things.
83) I usually give someone who has wronged me a second chance. A a n d D
84) I dislike responsibility. A a n d D
85) There is never any reason to remain sorrowful for very long. A a n d D
86) I hardly ever think of such things as death or atomic war. A a n d D
87) People are happiest when they have challenges and problems to overcome. A a n d D
88) I dislike having to depend on others. A a n d D
89) People never change basically. A a n d D
90) I feel I must handle things in the right way. A a n d D
91) It is annoying but not upsetting to be criticized. A a n d D
92) I'm not afraid to do things which I cannot do well. A a n d D
93) No one is evil, even though his deeds may be. A a n d D
94) I seldom become upset over the mistakes of others. A a n d D
95) Man makes his own hell within himself. A a n d D
96) I often find myself planning what I'd do in different dangerous cases. A a n d D
97) If something is necessary, I do it even if it is unpleasant. A a n d D
98) I don't expect someone else to be highly concerned about my welfare. A a n d D
99) I don't look upon the past with any regrets. A a n d D
100) There is no such thing as an ideal set of circumstances. A a n d D
APPENDIX B

Informed Consent
INFORMED CONSENT:

I agree to have these data used for research purposes only, knowing that my responses will be used anonymously and my identity will not be revealed. I understand that at any time I may stop the test or refuse to have the test results used. If I have any questions, I have been notified that my questions will be answered.

Initials: ________________

Please list only the following:

Male ____ Female ____ (check)
Birthdate: ______________
Height: ________________
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