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PATTERNS IN DEPRESSION.
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PERCEPTIONS OF CONTROL AND RESPONSIBILITY:
PATTERNS IN DEPRESSION

DISSERTATION

Presented in Partial Fulfillment of the Requirements for the Degree Doctor of Philosophy in the Graduate School of The Ohio State University

By
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* * * * *

The Ohio State University
1979

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VITA

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I. INTRODUCTION

In surveying the rather voluminous body of literature dealing with depression, one cannot help but feel somewhat overwhelmed by the tremendous number and variety of conceptual models which are being utilized by theorists and researchers in the field. It is at this point that the serious investigator may find himself tempted to focus his efforts exclusively upon this complex matrix of models surrounding the phenomenon of depression, perhaps to the point of forgetting that any model is but a selective representation of the phenomenon it reflects. Since this distinction serves as an epistemological background against which the present study must be viewed, it may be of value to examine the following quotations, coming from the fields of theology, physics, and semantics, all dealing with the same point:

"The human dilemma of communication is that we cannot communicate ordinarily without words and signs, but even ordinary experience tends to be falsified by our habits of verbalization and rationalization. The convenient tools of language enable us to decide beforehand what we think things mean, and tempt us all too easily to see things in a way that fits our logical preconceptions and our verbal formulas. Instead of seeing things and facts as they are we see them as reflections and verifications of the sentences we have previously made up in our minds. We quickly forget how to simply see things and substitute our words and our formulas for the things themselves, manipulating facts so that we see only what conveniently fits our prejudices." (Thomas Merton, 1968, pp. 48-49)
"For most of us it is very difficult to be constantly aware of the limitations and of the relativity of conceptual knowledge. Because our representation of reality is so much easier to grasp than reality itself, we tend to confuse the two and to take our concepts and symbols for reality." (Fritjof Capra, 1975, p. 15)

"The map is not the territory." (Alfred Korzybski, 1958)

With this distinction firmly in mind, along with the obvious necessity for a reasonably high level of clarity and consistency in communication, the present study approached depression primarily through the cognitive model delineated by Aaron T. Beck in his classic work, Depression: Causes and Treatment (1967). Where appropriate, other "maps" were utilized in part or in whole to clarify or expand upon those portions of the "territory" under discussion. Although a thorough description and explication of the Beckian model is presented in the following chapter, it may be of value to briefly examine the basic structure of this model here.

In essence, Beck holds that what lies at the heart of depression is a triad of cognitive sets, or schemas, through which the depressed individual consistently views himself, his experiences, and his future in a negative manner. Through the use of what Beck terms paralogical, stylistic, and semantic distortions in logic, the overall configuration of the depressive schemas is maintained and
supported, even in the face of seemingly contradictory data. A focal point in this model is the thesis that affective responses are a function of the manner in which the individual structures his experiences, that is, the schema(s) through which the individual mediates his experiences, and if the individual predominantly construes his experiences via depressive schemas, the consequent affective responses to these experiences will be correspondingly depressed in nature. Once elicited and subjectively experienced, this depressed affect feeds back into and consequently reinforces the schemas which preceded it. This model has a great deal in common with numerous other cognitively-oriented models, such as that of Valins & Nisbett (1971) and Ellis (1962).

It is hoped that a working understanding of this model will provide a meaningful context within which the issues of relevance to the present study may be seen with greater depth and clarity, and it is to these more specific issues of interest that we now turn.

For centuries, two clusters of symptoms consistently have been associated with the depressive syndrome: 1) feelings of helplessness, hopelessness, powerlessness, and futility, and 2) tendencies toward self-blame, guilt, and self-deprecation. In a recent paper, Abramson and Sackheim (1977) point to the conceptual paradox which arises
in any attempt to logically integrate these two symptom clusters into a single theoretical model:

"The two perspectives of the symptoms of depression, as well as the theories they have generated, appear incompatible. The discrepancy between these two views resides in the question of whether individuals assume responsibility for events that they believe they neither cause nor control." (p. 839)

In other words, to an outside observer, the depressed individual seems to attribute responsibility for the events which befall him in an inconsistent and illogical manner. On the one hand, he expresses beliefs by which he sees himself and his life in terms of powerlessness, helplessness, and hopelessness, thus apparently projecting all responsibility "outward." On the other hand, he demonstrates a powerful tendency to blame himself for a vast range and number of perceived failures and adverse outcomes, consequently channeling responsibility "inward." If one believes that he has no control over outcomes (i.e., feelings of helplessness), how can he logically accept responsibility for any outcomes at all, let alone one specific sub-group revolving around the theme of self-deprecation and consequent blame? To complicate matters even further, how does one make sense out of the situation in which a depressed individual utilizes his feelings of helplessness and powerlessness as a means for further self-castigation, vehemently blaming himself for his perceived position of helplessness?
This seeming paradox is rooted in a complex network of semantic, logical, and conceptual assumptions, all of which may tend further to confuse the issue. A few of these elements contributing to the complexity of this issue are highlighted by the following questions:

1) When a depressed individual expresses feelings of helplessness, precisely what meaning does he intend to convey by the term "helpless"? --- the perceived non-contingency of response and outcome postulated by Seligman (1975); the low rate of response-contingent positive reinforcement of Lewinsohn (1974); a generalized belief in the unavailability of appropriate responses, as described by Handler (1975); a perceived inability to "break out" of depressive patterning habits, i.e., to neutralize the seemingly automatic mediation of experiences via depressive schemes; or is he using the term "helpless" to refer to a subjectively experienced feeling which no single linguistic label or cognitive structure can fully capture or circumscribe?

2) When an observer hears a depressed individual expressing feelings of "helplessness," precisely what meaning does he infer from this expression, and how well does this inferred meaning reflect the intended meaning?

3) Does the intended meaning behind the term "helpless" remain consistent for a specific depressed individual over time? Do different depressed individuals mean the same thing when they say that they "feel helpless"?

4) Does the depressed individual believe himself to be behaving paradoxically in regard to the manner in which he attributes responsibility, or simply realistically? If a depressed individual suddenly became aware of this "paradoxical" aspect of his functioning, would he not simply see it as further evidence of his inadequacy as a person, thus using it to reinforce the depressive framework?

5) Finally, is it necessarily "paradoxical" and "illogical" to attribute responsibility on the basis of some criteria other than "controllability"?
For example, does not a parent continue to feel "responsible" for his/her children even when they are away at college and thus beyond the parent's "control?" Is this behavior on the part of the parent truly "paradoxical," or can it be seen as quite "logical" when viewed against the background of a broader motivational/emotional context?

In light of these questions surrounding the depressive paradox, it seems somewhat premature to attempt any conceptual or empirical resolution without first observing and analyzing the manner in which depressives do indeed perceive their lives in regard to matters of control and responsibility. It is to this specifically circumscribed area of inquiry that the present study addressed itself.

Most attempts to assess the complex relationships between depression and perceived control have revolved around the locus of control construct pioneered by Rotter (1966). Rotter's original I-E scale was constructed to assess the degree to which the respondent perceives reinforcement as being contingent upon one's own behaviors and abilities (an "internal" orientation), or as being controlled by external agents such as luck, fate, and powerful others (an "external" orientation). Externality, as defined and measured by the Rotter I-E scale, has been found to correlate positively with depression (e.g., Abramowitz, 1969; Laughlin, 1973; Naditch, Gargan & Michael, 1975; Miller & Seligman, 1973).

However, since its inception, several potentially
confounding factors within the Rotter scale have been pointed out by various researchers and theorists, casting some doubt on the validity of the abovementioned results. The primary factors fueling this doubt are the mood-level bias within the Rotter scale (Lamont, 1972) and the apparent multi-dimensionality of the scale (Hirels, 1970; Abramowitz, 1973), both of which tend to make clear-cut interpretation of externality-depression correlations quite difficult.

In an effort to avoid the problems inherent in the Rotter scale, Levenson (1973) constructed a locus of control scale in Likert-format which differentiated among three distinct sources of control: self, powerful others, and chance. Factor-analysis verified the validity of this tri-partite split, and a later study utilizing this scale (Levenson, 1974) indicated a positive relationship between depression and scores on the powerful others and chance subscales, consequently supporting the results of those previous studies which had found depression to correlate positively with externality as measured by Rotter's I-E scale.

In a study which will be examined in some detail due to its importance to the present study, Buonocore (1977) constructed a scale specifically designed to tap a variety of beliefs surrounding issues of perceived control
and responsibility, and proceeded to examine their relationships with depression. A six-point Likert-format was utilized throughout this scale (hereafter referred to as the BIE), and the Beck Depression Inventory (BDI; Beck, 1967) served as the measure of depression. The rationale behind the various BIE sub-scales and their correlations with depression are best summarized as follows:

1) Extending Levenson's (1973; 1974) tri-partite differentiation among sources of control somewhat, four sources of control were included in the BIE: self (I), powerful others (P), impersonal outside forces (F), and chance (C). Correlations with BDI scores were, respectively, as follows: -.106 (NS), .529 (p<.001), .436 (p<.001), and .388 (p<.001).

2) Borrowing from the work of Crandall, Katovsky & Crandall (1965) and Kischel, Zeiss & Zeiss (1974), sources of control were crossed with positive and negative outcomes, allowing a concise measurement of the respondent's tendency to internalize responsibility for negative outcomes while simultaneously externalizing responsibility for positive outcomes. Scores on this IN/EP scale correlated .1807 (p<.05) with BDI scores.

3) The "self-control" scale of Reid & Ware (1974), which was constructed to measure the degree to which the respondent feels that he can exert control over his own
desires, impulses, and emotions, was adapted for Likert-format and included within the BIE. Scores on this scale correlated \(-.318 (p<.001)\) with BDI scores.

4) In an effort to assess the validity of Seligman's (1976) suggestion that the depressed individual may see himself as having less control over the course of his own life than do other people over theirs, a scale purporting to measure the degree of this belief was constructed and included within the BIE. Scores on this "comparative control" (CC) scale correlated strongly \((r = .471; p<.001)\) with BDI scores.

5) Finally, working from a suggestion set forth by Schwartz (1964), a scale was constructed which proposed to assess the degree to which the respondent differentiates between the concepts of "control" and "responsibility," thus allowing himself to "logically" feel "responsible" for events over which he has no "control," a view which Schwartz feels may be present within the depressive framework. Scores on this "responsibility without control" scale \((R-C)\) correlated strongly with BDI scores \((r = .405; p<.001)\).

It should be noted here that many of the items comprising the I, P, F, and C scales were taken either directly or with slight changes from several already existing I-E scales, such as that of Rotter (1966), Levenson (1973, 1974), James (1957), and Reid & Ware (1974).
The subjects for this study were 175 introductory psychology students at the Ohio State University, all of whom were participating in partial fulfillment of the research requirements for their course.

The magnitude of some of the resultant correlations may be somewhat surprising in view of the fact that BDI scores for the entire subject sample averaged only 8.72 with a standard deviation of 6.07, indicating that the majority of BDI scores fell within the non-depressed range. Many of these results (especially, perhaps, those stemming from the R-C scale), if replicable, would seem to have direct relevance to those questions revolving about the previously discussed "paradoxical" nature of depressive "patterning" of experience with regard to perceptions of control and responsibility.

Accordingly, the present study aimed to shed further light upon the complex relationships between depression and perceptions of control and responsibility. More specifically, the present study proposed, first of all, to attempt replication of the results described above (Buonocore, 1977), with the addition of yet another "trait"-oriented depression measure (the Zung Self-Rating Depression Scale; Zung, 1965) and a "state"-oriented depression measure (the Depression Adjective Check List; Lubin, 1965). This wider utilization of depression measures allowed for a more comprehensive assessment of
the relationships uncovered in the single previous study correlating BIE-scores with those obtained on the BDI.

The second portion of this study involved the newly-created Within/Without Assessed Responsibility Scale (WWARS; see Appendix). In this scale, six situations involving "Person A" are described, half of which culminate in negative outcomes, the other half in positive outcomes. For each situation, the respondent is asked to: 1) make an "objective" determination of Person A's responsibility for the outcome, and 2) assess the degree to which he (the respondent) would feel responsible for the outcome if he were in the place of Person A. Since both the criteria and the cues for making these determinations were constructed to be conflicting and ambiguous within the situations described, this scale could be viewed as somewhat projective in nature. Subjects' responses were couched in terms of an 11-point Likert-scale ranging from 0 to 10, inclusive. The questions which this scale was constructed to address within the context of the present study were generally as follows:

1) Will increasing depression correlate positively with greater "objectively" assessed responsibility in negative-outcome situations? With lesser "objectively" assessed responsibility in positive-outcome situations?

2) Will increasing depression correlate positively
with greater "subjectively" assessed (i.e., when the respondent puts himself in the place of Person A) responsibility in negative-outcome situations? With lesser "subjectively" assessed responsibility in positive-outcome situations?

3) With increasing depression, will the "subjective" assessment of responsibility be consistently greater than the "objective" assessment in negative-outcome situations? Consistently smaller in positive-outcome situations?

The theme which lies at the heart of the WVARS involves the depressive bias which also underlies the logic behind the IN/EP subscale of the BIE. The third issue mentioned above (involving the differences between "subjective" and "objective" assessments) seemed especially intriguing. Since responsibility in each situation was first assessed "objectively," that is, according to the best logical framework available to the respondent at the time, it seemed reasonable to assume that the "subjective" assessment would tend to gravitate toward the previously determined "objective" assessment for non-depressed subjects, whereas the more depressed subjects' responses might tend to reflect a quantitatively greater discrepancy in accord with the dynamics of depressive patterning. Or, to speak in terms of the Beckian model, one might say that the "objective" assessment procedure aimed to minimize the
application of depressive schemas to the task, while the
"subjective" portion attempted to maximize (relatively)
the probability of their application.

The final portion of this study, not directly related
to the issue of perceived control and responsibility, but
rather to the concept of depressive "patterning," arose
from Tart's (1975) discussion of the potential value of
the Cloze technique (Taylor, 1953) as a means of assessing
the adequacy of communication across what he terms "dis­
crete altered states of consciousness." The term cloze
is derived from the Gestalt concept of closure, and the
conceptual foundation for this technique resides in the
"human tendency to complete a familiar but not-quite­
finished pattern -- to 'see' a broken circle as a whole
one, for example, by mentally closing up the gaps" (Taylor,
1953, p. 415). The technique itself is quite simple:
from a written communication, every fifth word is deleted,
and the respondent's task is to attempt to fill in the
missing words. Thus, by working from the contextual
patterns present, the respondent attempts to "close" the
communicational gaps resulting from the deletions. This
technique consequently measures the adequacy of the entire
communication process as a whole, from encoding to de­
coding.

Since the manifestation of depression in the cognitive
portion of the afflicted individual's functioning shows
basic similarity across individuals (the depressive triad of schemas described by Beck, 1967), an intriguing and empirically testable question presents itself: Would a depressed individual be more capable than a non-depressed individual of closing more of the gaps in a depressively-patterned communication, i.e., one which embodies the logic and "flavor" of depression? It was to this question that the final portion of this study addressed itself.

After surveying a wide number and variety of communications of varying appropriateness to the task at hand, a "depressive soliloquy" was created (see Appendix) which, it was hoped, would serve as an appropriate and adequate communication for the purposes of the present study. One final note from Taylor (1953) may serve to clarify the conceptual link between technique and theory which formed the basis of this final portion of this study:

"More precisely, the cloze method seems to deal with more-or-less parallel sets of meaning-pattern relationships. Different persons may express the same meaning in somewhat differing ways, and the same language patterns may have differing meanings for different people. Cloze procedure takes a measure of the likeness between the patterns a writer has used and the patterns the reader is anticipating while he is reading" (p. 417).

Thus, in summary, it might be said that the aim of the present study was to gain further insight into the
cognitive patterns, or schemas, which function as an inherent and active part of the depressive framework — especially those patterns affecting one's perceptions and beliefs regarding questions of control and responsibility in one's own life, for the manner by which the individual deals with these ultimately unanswerable questions will profoundly affect his life on many levels. A broadened and refined understanding of the relationship between depression and those specific cognitive mechanisms which serve to support it is certainly a fruitful pursuit of research, for such an understanding might allow for more efficacious methods of intervention and prevention. The set of cognitive structures subsumed under the label of perceptions of control and responsibility may prove especially valuable in this respect, for these structures may directly or indirectly affect a substantial portion of the individual's perceptions, beliefs, attitudes, and habitual modes of functioning, as well as his self-concept and general world-view. Indeed, as will be seen in the following chapter, perceptions of control have been found to be logically related to a number of variables, and it seems reasonable to assume that our current confusion regarding their relationship with depression can be gradually cleared through the combined efforts of theorists and researchers in the field.
II. LITERATURE

In this chapter, the cognitive model of depression outlined by Beck (1967) will first be described, with special attention given to the symptomology and dynamics which directly and indirectly contribute to the support and maintenance of the depressive mode of functioning. Following this, relevant locus of control literature will be reviewed, and the convergence of these two lines of thought, which served as the conceptual foundation for the present study, will be delineated in the final portion of this chapter.

BECK'S MODEL OF DEPRESSION: SYMPTOMS, DYNAMICS

Beck (1967) outlines the symptomology of depression in terms of four clusters: affective, motivational, cognitive, and physical/vegetative. These symptoms may be summarized as follows:

Affective -- dejected mood; negative feelings toward self; reduction in gratification; loss of emotional attachments/involvement; crying spells; loss of mirth response;

Motivational -- paralysis of will; avoidance, escapist, and withdrawal wishes; suicidal wishes; increased dependency;

Cognitive -- low self-evaluation; negative expectations; self-blame and self-criticism; indecisiveness; distortion of body image;
Vegetative/Physical -- loss of appetite; fatigability; loss of libido; sleep disturbance.

Any or all of these symptoms may be present in differing degrees and combinations in any individual case, depending upon the severity of the depression and the personality structure of the afflicted individual. In more severe cases, any of the cognitive distortions mentioned above may grow enough in terms of intensity and rigidity to warrant its being labelled a delusion. Beck groups depressive delusions into five basic categories: delusions of worthlessness, delusions of the "unpardonable" sin and of being punished or expecting punishment, nihilistic delusions, somatic delusions, and delusions of poverty. Hallucinations embodying depressive themes may also be present in more severe cases.

Beck conceptualized depression in terms of the activation and predominance of a set of three related cognitive patterns, or "schemas," through which the depressed individual consistently structures his concept of himself, his experience, and his future in a negative manner. In an attempt to further refine what is meant by the term "schema," Beck referred to the definition set forth by English & English (1958): "the complex pattern, inferred as having been imprinted in the organismic structure by experience, that combines with the properties
of the presented stimulus object or of the presented idea to determine how the object or idea is to be perceived and conceptualized." For a more comprehensive discussion of the nature and function of schemas, the reader is referred to Beck (1967, pp. 282-284), or to Tart's (1975) States of Consciousness, wherein conceptually analogous "psychological structures" are meticulously discussed within the framework of what Tart refers to as a "systems approach."

A vitally important component of any schema is the system of logic which serves to maintain the overall pattern of the schema, and which is, at the same time, an integral part of the schema. The structuralized logical elements inherent in various schemas may differ both quantitatively and qualitatively, depending upon numerous factors, and may include premises, assumptions, and even fully developed syllogisms. With reference to the present study, it might be useful to view perceptions of control and responsibility as one specific subset of these logical systems, for the manner by which the individual patterns his experiences regarding issues of control and responsibility will largely contribute to his self-concept, world-view, and dominant mode of interaction with others. For example, if an individual has come to believe that he is responsible for negative outcomes regardless of his degree of logically determinable
culpability, it is likely that this logical mechanism will tend to effect a wide range and variety of self-blaming behaviors, lowered self-evaluation, and perhaps even depressed affect. For more complete discussions of this topic, Tart's (1975) description and analysis of "state-specific logics," and Arieti's incisive discussion of the substitution of "paleological" logic for Aristotelian logic in schizophrenia are both highly recommended.

In depression, a consistently negative bias underlies the triad of schemas relating to the self, experiencing, and the future. The depressed individual views himself as inadequate, deficient, and unworthy, and believes himself to be physically, mentally, and morally defective. He tends to reject himself on the basis of his presumed defects, and consequently regards himself as worthless and undesirable. This individual consistently construes his current experiencing as representing deprivation and defeat, and sees his life as filled with burdens, obstacles, frustrations, and inevitable suffering. When he looks to the future, the depressed individual anticipates an indefinite continuation of his present difficulties and suffering. It may be of interest to note that, at the other end of the manic-depressive continuum, the negative bias underlying this triad of schemas is replaced by a consistently positive bias.

The use of the term "bias" above implies some degree
of reality distortion, i.e., fitting reality to the schema rather than vice versa, and this is indeed the case with the depressed individual. Through the use of what Beck terms paralogical, stylistic, and semantic distortions in logic, the overall configuration of the depressive schemas is maintained and supported, even in the face of seemingly contradictory data. Beck labels and defines these distortive mechanisms as follows:

1) **arbitrary inference** — the process of drawing a conclusion from a situation, event, or experience, when there is no evidence to support the conclusion, or when the conclusion is contrary to the evidence;

2) **selective abstraction** — the process of focusing on a detail taken out of context, ignoring other more salient features of the situation, and conceptualizing the whole experience on the basis of this element;

3) **overgeneralization** — the process of drawing a general conclusion about one's abilities, performance, or worth on the basis of a single incident;

4) **magnification and minimization** — errors in evaluation so gross as to constitute distortion, e.g., exaggeration of problems and failures, minimization of abilities and successes;

5) **inexact labelling** — wherein the affective response to a situation is a function of the descriptive labelling of the event, rather than the actual intensity of the event.

Another point of importance in Beck's model is the thesis that affective responses are a function of the manner in which the individual structures his experiences, i.e., the schema(s) through which the individual mediates his experiences. Thus, if an individual predominantly construes
his experiences via depressive schemas, the consequent emotional responses to these experiences will be correspondingly depressed in nature. However, the relationship between cognition and affect is not as one-directional as this formulation may seem to imply, for, once elicited and subjectively experienced, the depressed affect feeds back into and consequently reinforces the schema which preceded it. This constant interaction between cognition and affect is referred to by Beck in terms of what he calls a circular feedback model, illustrated quite simply as follows: the more negatively the individual thinks, the worse he feels; the worse he feels, the more negatively he thinks. This "downward spiral" in depression is, for the unfortunate individual caught in it, usually quite difficult to break out of without some form of outside help and support, and may, in extreme instances, culminate in attempted suicide.

Support for Beck's model comes from various sources. For example, Mischel, Ebbesen & Zeiss (1973) have presented data which suggests that subjects in whom depression has been experimentally induced tend to spend more time examining uncomplimentary materials than do control subjects when given the choice between examining information alleged to be complimentary or uncomplimentary. Along similar lines, Lishman (1972) and Lloyd & Lishman (1975)
have found that one correlate of severe depression seems to be a tendency on the part of the depressed individual to recall negatively toned material more readily than positively toned material. These results seem to indicate that, in line with the Beckian model, depressed individuals demonstrate a special sensitivity to negative aspects of situations, and that they tend to screen environmental input in a very selective manner, thus supporting and perpetuating their negative view of themselves, their experiences, and their futures.

In addition, several researchers have successfully induced some degree of depression by manipulating the subjects' focus of attention by having them read a series of depressing statements aloud (Velten, 1968), having them view a sad movie (Averill, 1969), or requesting them to think of a sad event (Moore, Underwood & Rosenhan, 1973), thus supporting the assertion that cognitions directly influence affect.

With this "mapping" of depressive functioning now completed, the discussion will turn to the locus of control construct. Following this, relevant theoretical and empirical attempts to extend and refine our understanding of the relationships between depression and perceptions of control will be reviewed. In this manner, it is hoped that a meaningful context within which the questions
posed by the present study may be seen with greater clarity and depth will gradually unfold, and that the underlying rationale will become more clearly evident.

PERCEPTIONS OF CONTROL

Since its inception in the early 1960's, the locus of control construct pioneered and operationalized by Rotter (1966) has been the focus of a vast amount of research. The Internal-External (I-E) scale of Rotter purports to assess the degree to which the individual perceives reinforcement as being contingent upon one's own abilities and behaviors, and thus within one's own personal control (an "internal" orientation), or as being under the control of external agents (e.g., luck, fate, powerful others), thus implying a lack of personal control over one's life. This internal-external dimension has demonstrated consistent and predictable relationships with a wide range and number of other variables, such as anxiety (Watson, 1967), ability to persuade others (Phares, 1965), decision-making time (Rotter & Kulry, 1965), social action-taking behavior (Gore & Rotter, 1963), and conformity in an Asch-type situation (Crowne & Liverant, 1963). Additional studies have demonstrated that "internals," when compared to "externals": a) score lower on indices of suicide potential (Williams & Nickels, 1969), b) are less likely to exhibit extreme and non-adaptive behaviors (Ducette & Wolk, 1972), c) have
generally more positive personality configurations
(as determined by a variety of personality scales) (Hersch & Scheibe, 1967), d) are more successful in school (Crandall, Katovsky & Crandall, 1965), and e) have more accurate information about their environment (Seeman & Evans, 1962). For a more comprehensive review of the research stemming from Rotter's locus of control construct, the reader is referred to Lefcourt (1966), or Joe (1971).

With further research, however, some unsuspected complications involving the Rotter I-E scale were noted. Lamont (1972), for example, empirically demonstrated a potentially confounding mood-level bias inherent within the Rotter scale, an issue of special relevance to the question of the relationship between I-E and depression. For this study, Lamont constructed an ipsative 15-item I-E scale in which each of the paired statements was worded to reflect high, neutral, or low mood-level, as determined by 113 undergraduate raters. In addition, all pairs of statements were equated in terms of social desirability, again via the undergraduate raters. All items were constructed to possess high face validity in terms of I-E content, and the internal and external statements were paired so as to present all possible combinations of I, E, and the three mood-levels. This scale was then administered to 197 undergraduate students in conjunction with the Zung (1965) Self-Report Depression
Scale. Analysis of results showed that depression scores correlated strongly with item mood-level (-0.84), irrespective of I-E content. In addition, mood-level ratings for the 46 statements comprising the Rotter I-E scale were obtained, and it was clearly demonstrated that the mood-level of the 23 external statements was significantly lower than that for the 23 internal statements (p < .001). These results raise the possibility that the use of the Rotter I-E scale may be inappropriate to the task of assessing the relationship between depression and locus of control, for any such empirically determined relationship (especially the frequently found correlation between externality and depression; see the following section of this chapter for specific examples) may result from the depressed individual's responding more to the differential mood-level loadings of the statements comprising the items rather than the I-E content per se.

Although most research has proceeded on the assumption that the Rotter I-E scale is unidimensional in nature, a line of research initiated by Mirels (1970) has demonstrated otherwise. Administering the Rotter scale to 159 undergraduate males and 157 undergraduate females, Mirels proceeded to factor-analyze the resulting data and uncovered two distinct factors in both of the samples, the first revolving about the concept of perceived mastery over the course of one's own life, and the second involving
perceptions of the degree to which the individual citizen can exert influence over political institutions. Similar results have been obtained by several researchers (Abrahamson, Schludermann & Schludermann, 1973; Reid & Ware, 1973), and Abramowitz (1973) demonstrated the differential predictive validity of these two factors by administering the Rotter scale and the Kerpelman Political Activity Scale to 166 undergraduate students. Subsequent analysis demonstrated that: a) the two factors were uncorrelated, and b) political commitment, as measured by the KPAS, was predicted by scores on the "political" factor of the Rotter scale (p<.01), but not by scores on the "non-political" factor or by scores on both factors combined. Reid & Ware (1973) have termed Mirels' first factor "fatalism," and the second factor "social system control."

Mirels (1970) also pointed out that the wording of the items making up these two factors differs both in terms of the target of control (the individual vs. the social system) and in terms of their reference to self or others. More specifically, the items contributing to the fatalism factor focus upon the individual as the target of control, while those contributing to the social-system-control factor emphasize the social system as the target of control. In addition, the items comprising the fatalism factor utilize first-person wording (consequently implying
to the respondent that it is his own personal control which is involved), while those contributing to the social-system-control factor are worded in third-person terminology, i.e., in terms of the control of political and world affairs over other people. However, in sharp contrast to Mirels' interpretation, Reid & Ware (1974) viewed the source of control as being the central difference between the two factors, with government, social institutions, and social forces as being the controlling agents within the social-system-control dimension, while luck, chance, and fortune serve as the sources of control within the fatalism dimension. The implication here is that the individual, or self, is perceived as the target of control in both dimensions. Reid & Ware stated the matter quite succinctly:

"This confounding of self with fatalistic determinants and other people with social system determinants in Rotter's scale makes it difficult to establish the bases on which the two factors differ. Indeed, the question arises as to whether the differences between the two factors are based on a self versus others distinction, a distinction between sources or targets of control, or a combination of these bases of distinction" (1974; p. 132).

In an empirical effort to lend some clarity to this confusion, Reid & Ware (1974) administered a forced-choice I-E questionnaire to 134 undergraduate students. The structure of this scale was as follows: ten items concerned chance determinants of self, while ten items
referred to chance determinants of others; similarly, ten items dealt with social system control of self, while ten items concerned social system control of others. Subsequent factor-analysis uncovered both the social-system-control factor and the fatalism factor, with self and others being used interchangeably between these two dimensions. These results seem to support the view set forth by Held & Ware that the two I-E dimensions differ essentially in terms of the sources of control, with the individual ("self" or "others") serving as the target of control in both dimensions.

In a study conducted by Hersch & Scheibe (1967), the Rotter I-E scale was administered in conjunction with a variety of effectiveness, intelligence and adjustment measures, and analysis of the resulting data showed that internals were considerably more homogeneous in terms of their test performances than were externals. Hersch & Scheibe concluded from this that there may be a wide diversity in the psychological meaning of externality, and that this construct should not be viewed as a unitary factor.

Accordingly, Levenson (1973; 1974) constructed an I-E scale which differed from the Rotter scale in several important ways: 1) a six-point Likert format replaced the forced-choice format of the Rotter scale; 2) all items were phrased exclusively in first-person terminology;
3) the individual clearly served as the target of control in all items; 4) three specific sources of control (self, powerful others, and chance) served to differentiate among the I-E subscales. This scale was then administered to 329 male undergraduates, and a subsequent factor-analysis verified the existence of these three dimensions as well as the virtually total lack of overlap of the items comprising them. In addition, it was found that the powerful others and chance scales correlated moderately with each other (r = 0.59; p < .01), while both were negatively related to the internal scale (r = -0.14, -0.17, respectively; NS).

In an attempt to assess the external validity of this tripartite split, Levenson (1974) administered her I-E scale, an Involvement Activities Checklist, and a measure of knowledge about pollution to the following three groups of subjects: 1) 32 subjects chosen randomly from the membership list of a local anti-pollution organization, 2) 32 subjects selected from those individuals who had been sent a letter of notification concerning the group but who had decided not to join, and 3) 32 subjects who had not been notified of the group and were not members. A 2X3 (sex X sources of control) analysis of variance involving scores on the Activities Involvement Checklist uncovered a significant interaction (p < .02), with males who scored low on the chance scale demonstrating signif-
icantly more involvement than males with high chance scores. Similarly, male non-members scored significantly higher on the chance scale than did male members (p<.05). According to Levenson, it may be reasoned that high expectations of control by powerful others or low expectations of control by self do not decrease involvement due to the fact that the potential for control still exists. However, for the strong chance believer, there is no such hope for control — the implication here is that those who score high on the chance scale would evidence lower levels of involvement, and the results seemed to support this interpretation. An additional 2X3 analysis of variance, this time using information concerning matters of pollution as the dependent measure, indicated a significant interaction (p<.001), with males who scored high on the chance scale having significantly less information than did those males who had low chance scores. It should also be noted that the internal and powerful others scores demonstrated no relationship to the amount of information possessed by the respondent.

In yet another study involving her I-E scale, Levenson (1973) administered the scale to 165 consecutive admissions to a state mental hospital, with the diagnostic classification of each patient being determined by a staff physician and a psychiatrist according to the *Diagnostic and Statistical Manual of Mental Disorders* (American
Psychiatric Association, 1968). A comparison of the means obtained from this institutionalized sample with those of a previous non-hospitalized "normal" sample indicated that the hospitalized sample scored significantly higher on the powerful others and chance scales (ps<.001), while there were no significant differences on the internal scale scores. An additional factor analysis again indicated the existence and independence of the internal, powerful others and chance factors, thus paralleling the results of Levenson's 1974 study. In assessing the effects of diagnostic classification upon I-E scores, it was found that neurotic patients' scores were closer to those of the normal sample than were those of psychotics. Although there was no significant difference between the scores of neurotics and psychotics on the internal scale, psychotics scored significantly higher on the powerful others (p<.01) and chance (p<.05) scales than did neurotics. In addition, depressives tended to score higher than the neurotics yet lower than the schizophrenics (psychotic, undifferentiated type) on the powerful others and chance scales. Further analysis of the data indicated that committed patients scored significantly higher on the powerful others scale than did voluntary patients (p<.03), and that re-admitted patients demonstrated significantly higher scores on the powerful others and chance scales than did newly admitted patients (ps<.05). Finally, Levenson discovered that
patients who took a retest one month later had significantly higher internal scores (p<.01) as compared to previous scores, although there were no differences in any of the scales when initial scores were compared to those obtained immediately before discharge.

In assessing and analyzing her results, Levenson concluded that the construct validity of her scale had been expanded, and speculated that:

"... the control by powerful others and the control by chance forces dimensions reflect rather stable, meaningful orientations for maladjusted persons. The internal scale, on the other hand, might reflect day-to-day fluctuations in a person's judged competency" (p. 403).

In addition, she suggested that it may be the internal dimension which is the most open to change, while the powerful others and chance orientations may be somewhat more impermeable.

The work of Crandall, Katovsky & Crandall (1965) and Mischel, Zeiss & Zeiss (1974) has suggested yet another potentially valuable differentiation which can be made within the context of an I-E instrument. In developing and validating I-E scales for use with children (the Intellectual Achievement Responsibility Questionnaire and the Stanford Pre-School Internal-External Scale, respectively), these researchers incorporated two new subscales, one being comprised of items involving positive outcomes (I+), and the other involving items which refer to negative
outcomes (I-). In the Crandall et. al. study, analysis of the data obtained from 923 elementary and high-school students indicated variable, but generally low, correlations between I+ and I- through a variety of grade levels — specifically, the correlations ranged from 0.11 (4th and 5th grades) to 0.43 (10th grade). Continuing along these research lines, Mischel et. al. found I+, but not I-, to be related to persistence in various situations in which instrumental activity would result in a positive outcome, while I-, but not I+, was related to persistence in situations where instrumental activity could prevent the occurrence of an aversive outcome. These results demonstrated the differential predictive utility of the positive outcome vs. negative outcome distinction within the context of a locus of control scale.

Reid & Ware (1974) have formulated yet another I-E subscale which may be of interest. In their attempt to formulate a "self-control" scale which would measure the respondent's perception of the degree to which he can exert control over his own desires, impulses and emotions, Reid & Ware constructed eight items in forced-choice format and administered the resulting extended I-E scale to 167 subjects taking either an introductory or a social psychology course at the undergraduate level. Factor analysis of the data indicated the existence of the previously discussed fatalism and social-system-control factors, as
well as the newly constructed self-control dimension. Further analysis indicated relatively low inter-correlations among these three factors, as well as relatively high internal consistency within each factor.

Thus it seems clear that the locus of control construct pioneered by Rotter (1966) is considerably more complex than was initially assumed, and it is this complexity which fuels the current theoretical and empirical confusion surrounding the relationship of perceptions of control to depressive functioning, to which the discussion now turns.

PERCEPTIONS OF CONTROL AND DEPRESSION

In attempting to assess the relationship between locus of control and depression, a number of researchers have empirically demonstrated a consistent positive correlation between depression and externality as defined and measured by the Rotter I-E scale. For example, Abramowitz (1969) administered the Guilford Depression Scale in conjunction with the Rotter I-E scale to a sample of 69 university undergraduates, and found depression to be significantly correlated with externality ($r = 0.354$, $p < .002$). Naditch, Gargan & Michael (1975) obtained similar results using the depression subscale of the Cornell Medical Index and the Rotter I-E scale in a sample of 547 men in Army basic training ($r = 0.19$, $p < .001$),
while other researchers have uncovered similar relationships using a variety of populations and depression measures (Calhoun, Cheyney & Dawes, 1974; Emmelkamp & Cohen-Kettenis, 1975; Laughlin, 1973). Results such as these have usually been interpreted as evidencing support for the "learned helplessness" model of depression set forth by Seligman (1974), which proposes that the core of the depressive framework lies in the depressed individual's perception/belief that outcomes and reinforcements are, at least for him, response-independent. However, the work of Lamont (1972) concerning the mood-level bias inherent within the Rotter I-E scale (discussed in the preceding section) casts a shadow of doubt upon this interpretation.

On the other side of the issue, Schwartz (1964) has suggested that the depressed individual tends to exhibit a highly self-referred perception of events, an orientation which would consequently entail increased feelings of responsibility for these events, and thus an internal orientation. This formulation is quite congruent with the frequently observed tendency for depressives to be extremely self-blaming (e.g., Beck, 1967), and is also supported by Phares (1972), who states that "depressions tend to be associated with people who possess a strong generalized expectancy that outcomes are their own responsibility" (p. 466). Yet another proponent of this view
is Lamont (1972), who points out that:

"The verbalizations of depressed patients, however, lead one to question whether they have an E orientation. More commonly, the depressed patient will accept blame for any and all bad events, and consider his lack of positive reinforcers as due to his own failure to obtain them. In short, he describes himself not as a pawn of fate but a highly responsible failure..." (p. 342).

Since the Buonocore (1977) study previously discussed in this paper is of such importance to the present study, it may be of value to review it briefly once more. In this study, a scale specifically designed to tap a variety of beliefs concerning issues of perceived control/responsibility (the BIE scale) was constructed and administered along with the Beck Depression Inventory (BDI; Beck, 1967) to 175 undergraduate students. The rationale behind the various BIE subscales and their relationships with BDI scores were as follows:

1) Extending Levenson's (1973; 1974) tri-partite differentiation among sources of control somewhat, four specific sources of control were included in the BIE: self (I), powerful others (F), impersonal outside forces (F), and chance (C). Correlations with BDI scores were, respectively, as follows: −0.106 (NS), 0.529 (p<.001), 0.436 (p<.001), and 0.358 (p<.001).

2) Borrowing from the work of Crandall, Katovsky & Crandall (1965) and Mischel, Zeiss & Zeiss (1974), sources
of control were crossed with positive and negative outcomes, allowing a concise measurement of the respondent's tendency to internalize responsibility for negative outcomes while simultaneously externalizing responsibility for positive outcomes. Scores on this IJT/EP scale correlated 0.1807 (p < .05) with BDI scores.

3) The self-control scale of Reid & Ware (1974), which purports to assess the degree to which the respondent believes that he can exert control over his own impulses, desires and emotions, was adapted for Likert-format and included within the BIE. Scores on this scale correlated -0.318 (p < .001) with BDI scores.

4) Working from Seligman's (1976) suggestion that the depressed individual may see himself as having less control over the course of his own life than do other people over theirs, a scale attempting to assess the degree of this belief was constructed and included within the BIE. Scores on this "comparative control" (CC) scale correlated strongly with BDI scores (r = 0.471, p < .001).

5) Finally, working from a suggestion set forth by Schwartz (1964), a scale was constructed which proposed to assess the degree to which the respondent differentiates between the concepts of "control" and "responsibility," thus clearing the ground, so to speak, for a "logical" acceptance of responsibility (blame?) for events/outcomes
regardless of the degree of controllability involved. Scores on this "responsibility without control" (R-C) scale also correlated strongly with BDI scores (r = 0.405, p<.001).

As noted previously, many of these results, if replicable, would seem to have direct relevance to those questions stemming from the previously discussed "paradoxical" nature of depressive patterning of experience with regard to perceptions of control and responsibility.

Thus, the first portion of the present study may be seen as an attempt to replicate and extend the results obtained in the single previous study assessing the relationships between those attitudes embodied by the various BIE scales and depression. In the second portion of the present study, involving the WARS (discussed in the previous chapter), an attempt was made to allow the "depressive bias" to manifest itself on a paper-and-pencil task specifically designed to activate and capture it in a quantifiable manner. The final portion of this study, involving the "depressive soliloquy" adapted for Cloze procedure (Taylor, 1953) as discussed earlier in this paper, is best seen as an effort to assess the degree to which depression scores may relate to the ability to "close the gaps" in a depressively-patterned communication with every fifth word deleted, for it seems reasonable to
hypothesize that the depressive patterns embodied by the soliloquy may be more easily "grasped" by those who are most familiar with them on a day-to-day basis, i.e., depressed individuals.
III. METHOD

In order to gain further insight into those specific perceptions involving issues of control which tend to be associated with the depressive framework, as outlined in the previous chapters, the BIE, the WWARS, the "depressive soliloquy" adapted for Cloze procedure, and three different depression instruments were administered to subjects in group settings. Since, with the exception of the depression measures, the instruments utilized were somewhat crude and exploratory in nature, the analyses most appropriate to test the hypotheses of interest in this study were correlational in nature, as described below.

Subjects. The subjects for this study were 94 introductory psychology students at the Ohio State University during the winter quarter of 1979. These subjects participated in this study in partial fulfillment of their research requirements for the course.

For some of the statistical procedures utilized, the data from the earlier (1977) Buonocore study were used in conjunction with the data obtained from the present study. The subjects for this earlier study were 175 introductory psychology students at the Ohio State University during the winter quarter of 1977, and these subjects also participated in partial fulfillment of the research requirements for this course.
Materials. The materials for this study were as follows:

1) The Depression Adjective Check List (DACL; Lubin, 1965), Form G, a "state"-oriented instrument composed of a list of 34 adjectives of which the respondent is to check those which characterize his current mood. Lubin (1965) reports a split-half reliability coefficient of 0.93 for this scale, while Nussbaum, Wittig, Hanlon & Kurland (1963) found scores on the DACL to correlate 0.66 with BDI scores. Further data relevant to this scale has been reported by Lubin (1965).

2) The Zung Self-Rating Depression Scale (SDS; Zung, 1965), a "trait"-oriented depression instrument composed of 20 statements to which the respondent is to reply along a four-point continuum ranging from "a little of the time" to "most of the time." Zung (1965) found mean scores on the SDS to be .74 for a group of individuals clinically diagnosed as depressives, while the mean score for a non-depressed control group was .33.

3) The Beck Depression Inventory (BDI; Beck, 1967), another "trait"-oriented depression instrument composed of 21 groups of statements concerning depressive symptoms and attitudes, to which the respondent is to indicate his answers by circling the statement in each group which most closely reflects his mode of functioning. Beck (1967) reported a split-half reliability coefficient of 0.93.
(with the Spearman-Brown correction) in a sample of 97 cases for this instrument, and has summarized a great number of validity studies utilizing this scale, all of which tend to support the utility of the BDI as a valid measure of depression (Beck, 1967; pp. 195-207).

4) The Buonocore Internal-External Scale (BIE; Buonocore, 1977), a 106 item scale concerning various issues of perceived control and responsibility, as described in the previous chapters, to which the respondent is to indicate his degree of agreement with each statement along a six-point continuum ranging from "strongly disagree" to "strongly agree." Although no direct reliability data is available for this scale, the various subscales have demonstrated predictable relationships with depression (Buonocore, 1977).

5) The newly-constructed Within/Without Assessed Responsibility Scale (WWARS; see Appendix A), as described in the previous chapters. Keyed in the direction of the hypothesized "depressive bias," there were a total of seven scores derived from this scale, as follows:

- **$W_1$** - "objective" assessments in positive-outcome situations, $O_{pos}$;
- **$W_2$** - "objective" assessments in negative-outcome situations, $O_{neg}$;
- **$W_3$** - "subjective" assessments in positive-outcome situations, $S_{pos}$;
W4 - "subjective" assessments in negative-outcome situations, Sneg;

W5 - Opos - Spos;

W6 - Sneg - Oneg;

W7 - (Opos - Spos) + (Sneg - Oneg).

6) The "depressive soliloquy" (see Appendix B) adapted for Cloze procedure, as discussed in the previous chapters.

Procedure. This battery of scales was administered, with instructions appropriate for each scale (see Appendix for the instructions concerning the WiTAHS and the "depressive soliloquy"), in four groups of approximately 24 subjects each. Subjects were informed that the study involved an examination of belief-systems concerning issues of perceived control and responsibility, with special interest in the relationship of such belief-systems to depression.

For the Zung SDS scores, raw scores were converted into SDS Index scores — here, for example, a score of 30 indicates that the respondent has demonstrated 30% of the depression measurable by the scale. For the Cloze measure, precise matches alone and precise matches plus synonymous matches were scored. To preclude the possibility of any unforeseen order effects, the order of the six scales was randomly determined for each subject.
Statistical Procedures. Means and standard deviations for all measures utilized in this study were first determined, and a total Pearson product-moment correlation matrix involving all measures was generated.

Since the BIE-EDI correlations obtained in the 1977 study were readily available, the parallel correlations obtained in the present study were directly compared with these earlier results through use of the Fisher $r$ to $Z$ transformation and the comparison formula described by Hayes (1973; pp. 663-664). In this manner, it was hoped that the consistency of the relationships uncovered in the 1977 study could be determined.

In the next portion of analysis, BIE scales served as predictors of BDI scores, with the consequent multiple-regression equations and multiple-correlation coefficients being determined. Since there was some inter-dependence among BIE scales (as some of the items comprising the I, P, F, and C scales were also used in calculating scores on the IN/EP scale), these scales were partitioned into two statistically independent blocks before this portion of the analysis was run, as follows: 1) I, P, F, C, SC, CC, & R-C, and 2) IN/EP, SC, CC, & R-C. This analysis allowed for a determination of the degree to which depression scores were determinable from indicated perceptions of control and responsibility as assessed by
the BIE scales involved.

In the final step of analysis, a double multiple-regression cross-validation was attempted, wherein the multiple-regression equations derived from the present sample were applied to the data obtained from the 1977 sample, and vice versa, again with BIE scores serving as predictors of BDI scores. Such an analysis, if reasonably successful, would strongly indicate that depression and perceptions of control and responsibility are indeed predictably and firmly intertwined, in line with the rationale underlying the various BIE scales.

**Hypotheses.** As discussed previously throughout this paper, the primary relationships of interest in this study involved the correlations among depression scores and the variety of other measures utilized. It was expected that BDI and SDS scores (i.e., the "trait"-oriented depression measures) would show stronger relationships with these other measures in the predicted directions than would DACL scores (which are "state"-oriented).

With regard to the BIE-BDI correlations, it was hypothesized that depression would correlate negatively with internality (I) and self-control (SC), and positively with scores on the powerful others (P), impersonal outside forces (F), chance (C), comparative control (CC), and responsibility without control (R-C) scales, as well as
the IN/EP scale, which assesses the degree to which the respondent internalizes responsibility for negative outcomes while simultaneously externalizing responsibility for positive outcomes. As for the magnitude of these correlations, it was tentatively hypothesized that the results obtained from the present sample would closely parallel those obtained in the 1977 study, which were as follows:

\[
\begin{align*}
I & \quad -0.106 \\
P & \quad 0.529 \\
F & \quad 0.436 \\
C & \quad 0.388 \\
IN/EP & \quad 0.180 \\
SC & \quad -0.318 \\
CC & \quad 0.471 \\
R-C & \quad 0.405
\end{align*}
\]

With regard to the depression-WJARS correlations, the hypothesized relationships stem from the dynamics of the "depressive bias" previously discussed. These predicted relationships (in terms of correlational directionality), most of which are quite tentative in nature, can briefly be summarized in the following manner:

- W1: Opos ----------------- uncertain
- W2: Oneg ----------------- uncertain
- W3: Spos ----------------- negative
- W4: Sneg ----------------- positive
- W5: Opos - Spos --------- positive
- W6: Sneg - Oneg --------- positive
- W7: (Opos-Spos) + (Sneg-Oneg) --------- positive.

As for the Cloze scores on the "depressive soliloquy," since it was hypothesized that increasing depression
would contribute to a greater ability to close the gaps in such a depressively-patterned communication, the correlation between these scores and depression was predicted to be positive in direction.
IV. RESULTS AND DISCUSSION

The results will be reported and discussed in the following order: first, the general structure of the data will be examined, that is, means and standard deviations for all measures utilized, as well as the range of scores on the depression measures; second, the correlational results relevant to the hypotheses of interest will be reviewed; finally, the results of the multiple-regression procedures described in the previous chapter will be described.

MEANS AND STANDARD DEVIATIONS

The means and standard deviations obtained for all measures utilized in the present sample (N = 94) are displayed in Table 1. An examination of the scores obtained on the three depression instruments utilized indicated that, in general, scores tended to be grouped primarily within the non-depressed range for each instrument (DACL mean = 11.6, SD = 7.2; BDI mean = 10.9, SD = 8.2; Zung SDS mean = 47.7, SD = 11.1), with the range for each depression measure being surprisingly wide (DACL range = 0 to 34; BDI range = 0 to 41; Zung SDS range = 26 to 86). It should be noted that this "bunching" of scores toward the non-depressed end of the continuum on these instruments may have served to attenuate the magnitude of the correlations involving these measures.
Table 1

Means and standard deviations for all scales utilized (N = 94).

<table>
<thead>
<tr>
<th>SCALE</th>
<th>MEAN</th>
<th>STANDARD DEVIATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>DA CL</td>
<td>11.6</td>
<td>7.2</td>
</tr>
<tr>
<td>BDI</td>
<td>10.9</td>
<td>8.2</td>
</tr>
<tr>
<td>Zung SDS</td>
<td>47.7</td>
<td>11.1</td>
</tr>
<tr>
<td>BIE Scales</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internal</td>
<td>4.5</td>
<td>0.43</td>
</tr>
<tr>
<td>Powerful Others</td>
<td>3.1</td>
<td>0.66</td>
</tr>
<tr>
<td>Outside Forces</td>
<td>3.3</td>
<td>0.82</td>
</tr>
<tr>
<td>Chance</td>
<td>3.1</td>
<td>0.84</td>
</tr>
<tr>
<td>IN/EF</td>
<td>-0.22</td>
<td>1.42</td>
</tr>
<tr>
<td>Self-Control</td>
<td>3.5</td>
<td>0.76</td>
</tr>
<tr>
<td>Comparative Control</td>
<td>2.9</td>
<td>0.70</td>
</tr>
<tr>
<td>Responsibility Without Control</td>
<td>3.8</td>
<td>0.74</td>
</tr>
</tbody>
</table>

NOTE: for all BIE scales (except IN/EP),
1 = STRONGLY DISAGREE
3.5 = NEUTRAL
6 = STRONGLY AGREE

for IN/EP: positive scores indicate internalization of responsibility for negative outcomes with externalization of responsibility for positive outcomes, i.e., "depressive bias" (see text)

<table>
<thead>
<tr>
<th>WWARS Scales</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>W1, Opos</td>
<td>8.7</td>
<td>5.25</td>
</tr>
<tr>
<td>W2, Oneg</td>
<td>14.2</td>
<td>5.42</td>
</tr>
<tr>
<td>W3, Spos</td>
<td>9.3</td>
<td>5.23</td>
</tr>
<tr>
<td>W4, Sneg</td>
<td>21.2</td>
<td>5.34</td>
</tr>
</tbody>
</table>

NOTE: for W1 through W4,
0 = 0% assessed responsibility
30 = 100% assessed responsibility

W5, Opos-Spos          | -0.6 | 4.5                |
W6, Sneg-Oneg          | 6.8  | 6.1                |
W7, (Opos-Spos) + (Sneg-Oneg) | 6.4  | 7.11               |

NOTE: for W5 through W7, scores are difference scores keyed so that positive scores indicate the hypothesized "depressive bias" (see text)
Table 1 (CONT.)
Means and standard deviations for all scales utilized (N = 94).

<table>
<thead>
<tr>
<th>SCALE</th>
<th>MEAN</th>
<th>STANDARD DEVIATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cloze scores on the</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&quot;depressive soliloquy&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exact matches only</td>
<td>15.3</td>
<td>4.85</td>
</tr>
<tr>
<td>Exact + synonymous</td>
<td>23.0</td>
<td>6.76</td>
</tr>
<tr>
<td>matches</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
to a degree.

The means and standard deviations obtained from the various BIE scales closely paralleled those stemming from the 1977 study. As was expected on the basis of previous research (e.g., Rotter, 1966), internality was the dominant orientation ($M = 4.5$, $SD = 0.43$), with impersonal outside forces being second in terms of endorsement ($M = 3.3$, $SD = 0.82$), while the powerful others and chance orientations tied for third ($M = 3.1$, $SD = 0.66$; $M = 3.1$, $SD = 0.84$, respectively). These results indicate that, as a whole, the student subjects saw themselves as the primary source of control in their lives, while impersonal outside forces were viewed as the most powerful "external" source of control, although still falling slightly within the "disagreement" side of the continuum for the scale.

Scores on the IN/EP scale of the BIE indicated that, as a whole, subjects tended to internalize responsibility for positive outcomes while simultaneously externalizing responsibility for negative outcomes to a very slight degree ($M = -0.22$, $SD = 1.42$), a tendency opposed to the "depressive bias," and one which might best be termed "ego-protective." The mean score on the self-control scale of the BIE (assessing the degree to which the respondent feels that he can control his own impulses,
desires, and emotions) fell precisely on the "neutral" point for the scale ($M = 3.5, \text{SD} = 0.76$). With respect to the comparative control scale of the BIE, results indicated that, as a whole, subjects did not feel that others exert more control over their lives than do they (the subjects) over their own ($M = 2.9, \text{SD} = 0.70$). Finally, scores on the responsibility without control scale of the BIE indicated a slight tendency on the part of the subjects to feel responsible for events over which they have little or no control ($M = 3.8, \text{SD} = 0.74$), thus suggesting that a conceptual differentiation between "responsibility" and "controllability" is present to a degree even within a sample of generally non-depressed subjects. Such a result suggests that the attribution of responsibility is not viewed purely as a function of the degree of controllability involved, at least when the subject serves as the target of these attributions, thus undermining one of the logical tenants forming the foundation of the "depressive paradox" discussed in earlier chapters.

Turning now to the results obtained on the various UVARS subscales, subjects as a whole tended to attribute a greater degree of responsibility in negative-outcome situations ($\text{Oneg \ mean} = 14.2, \text{SD} = 5.42; \ \text{Sneg \ mean} = 21.2, \text{SD} = 5.34$) than in positive-outcome situations ($\text{Opos \ mean} = 8.7, \text{SD} = 5.25; \ \text{Spos \ mean} = 9.3, \text{SD} = 5.23$).
with the primary difference score being that between "subjective" and "objective" assessments in negative-outcome situations (as reflected in Sneg-Oneg: \( M = 6.8, \ SD = 6.1 \)), thus indicating a general tendency for the respondent to blame himself in negative-outcome situations to a greater extent than another person ("Person A") in the same situation.

Finally, out of 44 deletions in the "depressive soliloquy," subjects as a whole averaged 15.3 exact matches (SD = 4.85) and 23.0 (SD = 6.76) exact plus synonymous matches, indicating that the task was, generally speaking, a somewhat difficult one for most subjects.

With this general overview of the data structure now completed, the discussion will turn to an examination of the correlational results obtained.

**CORRELATIONAL RESULTS**

The total correlation matrix involving all measures utilized in the present study is displayed in Table 2. After some general considerations, the results will be broken down according to the hypotheses outlined previously.

It should first be noted that the BDI and the Zung SDS (the "trait"-oriented depression measures) correlated more strongly with each other (\( r = .729, \ p < .001 \)) than with the DACL (DACL-BDI \( r = .638, \ p < .001 \); DACL-SDS \( r = .675, \)
Table 2

Pearson product-moment correlation coefficients involving all measures used.

<table>
<thead>
<tr>
<th></th>
<th>DACL</th>
<th>BDI</th>
<th>Z</th>
<th>I</th>
<th>P</th>
<th>F</th>
<th>C</th>
<th>NP</th>
</tr>
</thead>
<tbody>
<tr>
<td>DACL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td>2.205</td>
<td>2.220</td>
<td>2.272</td>
<td>2.45</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I</td>
<td>2.376</td>
<td>2.490</td>
<td>2.376</td>
<td>2.236</td>
<td>2.367</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P</td>
<td>2.204</td>
<td>2.048</td>
<td>2.377</td>
<td>2.236</td>
<td>2.367</td>
<td>2.647</td>
<td></td>
<td></td>
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<tr>
<td>C</td>
<td>2.226</td>
<td>2.435</td>
<td>2.333</td>
<td>2.211</td>
<td>2.505</td>
<td>2.634</td>
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<tr>
<td>NP</td>
<td>-0.090</td>
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<td>1.644</td>
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<td>SC</td>
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<td>2.414</td>
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<td>2.483</td>
<td>2.462</td>
<td>0.096</td>
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<td>2.665</td>
<td>2.560</td>
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<td>2.474</td>
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<td>0.140</td>
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<tr>
<td>R-C</td>
<td>2.254</td>
<td>2.465</td>
<td>2.263</td>
<td>0.063</td>
<td>2.402</td>
<td>2.602</td>
<td>2.483</td>
<td>0.220</td>
</tr>
<tr>
<td>W1</td>
<td>2.303</td>
<td>2.134</td>
<td>2.156</td>
<td>-2.806</td>
<td>0.949</td>
<td>2.165</td>
<td>2.007</td>
<td>0.031</td>
</tr>
<tr>
<td>W2</td>
<td>-0.007</td>
<td>0.088</td>
<td>-0.004</td>
<td>0.008</td>
<td>0.059</td>
<td>2.127</td>
<td>1.142</td>
<td>0.096</td>
</tr>
<tr>
<td>W3</td>
<td>-0.154</td>
<td>-0.082</td>
<td>-0.078</td>
<td>-0.067</td>
<td>1.226</td>
<td>1.131</td>
<td>2.145</td>
<td>0.023</td>
</tr>
<tr>
<td>W4</td>
<td>0.086</td>
<td>0.073</td>
<td>0.062</td>
<td>2.227</td>
<td>2.004</td>
<td>2.061</td>
<td>2.076</td>
<td>1.104</td>
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<tr>
<td>W5</td>
<td>-0.174</td>
<td>-0.060</td>
<td>-0.091</td>
<td>-0.015</td>
<td>-0.038</td>
<td>0.017</td>
<td>1.160</td>
<td>0.063</td>
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<tr>
<td>W6</td>
<td>-0.075</td>
<td>-0.083</td>
<td>-0.031</td>
<td>2.233</td>
<td>-2.063</td>
<td>-2.103</td>
<td>-2.104</td>
<td>0.057</td>
</tr>
<tr>
<td>W7</td>
<td>-0.040</td>
<td>-0.050</td>
<td>-0.009</td>
<td>2.155</td>
<td>2.066</td>
<td>2.040</td>
<td>2.152</td>
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<tr>
<td>EM</td>
<td>1.377</td>
<td>0.086</td>
<td>2.205</td>
<td>0.001</td>
<td>2.177</td>
<td>2.165</td>
<td>2.149</td>
<td>0.197</td>
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<tr>
<td>SM</td>
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<td>0.069</td>
<td>1.154</td>
<td>-2.004</td>
<td>-2.130</td>
<td>-2.114</td>
<td>-2.134</td>
<td>-2.201</td>
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</table>

<table>
<thead>
<tr>
<th></th>
<th>SC</th>
<th>CC</th>
<th>R-C</th>
<th>W1</th>
<th>W2</th>
<th>W3</th>
<th>W4</th>
<th>W5</th>
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<tbody>
<tr>
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<td>-0.653</td>
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<tr>
<td>R-C</td>
<td>-0.466</td>
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<tr>
<td>W2</td>
<td>0.185</td>
<td>0.059</td>
<td>0.096</td>
<td>0.300</td>
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<tr>
<td>W3</td>
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<td>0.054</td>
<td>0.026</td>
<td>2.632</td>
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<tr>
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<td>0.234</td>
<td>0.038</td>
<td>0.484</td>
<td>0.003</td>
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</tr>
<tr>
<td>W5</td>
<td>0.104</td>
<td>-0.035</td>
<td>-0.009</td>
<td>2.432</td>
<td>0.034</td>
<td>-2.222</td>
<td>0.042</td>
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<td>W6</td>
<td>-0.194</td>
<td>-0.022</td>
<td>0.102</td>
<td>-2.207</td>
<td>-2.431</td>
<td>-2.257</td>
<td>2.522</td>
<td>0.057</td>
</tr>
<tr>
<td>W7</td>
<td>-0.119</td>
<td>-0.020</td>
<td>0.098</td>
<td>0.074</td>
<td>0.378</td>
<td>0.475</td>
<td>0.409</td>
<td>0.630</td>
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<tr>
<td>EM</td>
<td>-0.046</td>
<td>0.074</td>
<td>0.033</td>
<td>0.051</td>
<td>0.155</td>
<td>0.128</td>
<td>0.056</td>
<td>0.090</td>
</tr>
<tr>
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<td>0.089</td>
<td>0.028</td>
<td>-1.108</td>
<td>-2.172</td>
<td>-1.106</td>
<td>0.012</td>
<td>0.002</td>
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</table>

N = 94

r = .203, p < .05
r = .264, p < .01
r = .335, p < .001

NOTE: all rs significant at p .05 or better are underscored
Table 2 (Cont.)

Pearson product-moment correlation coefficients involving all measures used.

<table>
<thead>
<tr>
<th></th>
<th>W6</th>
<th>W7</th>
<th>EM</th>
<th>SM</th>
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<tr>
<td>W7</td>
<td></td>
<td>.761</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EM</td>
<td>.284</td>
<td>.217</td>
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<td></td>
</tr>
<tr>
<td>SM</td>
<td>.212</td>
<td>.120</td>
<td>.912</td>
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</table>

N = 94

r = .203, p<.05
r = .264, p<.01
r = .335, p<.001

NOTE: all rs significant at p<.05 or better are underscored

KEY:

DACL --- Depression Adjective Check List
BDI --- Beck Depression Inventory
Z --- Zung Self-Report Depression Scale
I --- BIE Internal
P --- BIE Powerful Others
F --- BIE Impersonal Outside Forces
C --- BIE Chance
MP --- BIE IN/EP
SC --- BIE Self-Control
CC --- BIE Comparative Control
R-C --- BIE Responsibility Without Control
W1 --- WNARS Opos
W2 --- WNARS Oneg
W3 --- WNARS Spos
W4 --- WNARS Sneg
W5 --- WNARS Opos-Spos
W6 --- WNARS Sneg-Oneg
W7 --- WNARS (Opos-Spos)+(Sneg-Oneg)
EM --- Cloze scores, exact matches only
SH --- Cloze scores, exact + synonymous matches
which is a "state"-oriented depression scale, although these correlation coefficients did not significantly differ.

As for the intercorrelations among BIE scales, results again indicated theoretically meaningful relationships in line with the underlying rationales for these scales. Scores on the internal scale correlated negatively and significantly with those for the three "external" scales (I-P \( r = -0.245 \), I-F \( r = -0.236 \), I-C \( r = -0.211 \), all \( p < 0.05 \)), while scores on these three "external" scales were moderately correlated with each other (P-F \( r = 0.647 \), P-C \( r = 0.595 \), F-C \( r = 0.634 \), all \( p < 0.001 \)).

As expected, scores on the self-control scale of the BIE correlated positively with internality (\( r = 0.243 \), \( p < 0.05 \)), and negatively with scores for the three "external" scales (SC-P \( r = -0.507 \), SC-F \( r = -0.483 \), SC-C \( r = -0.462 \), all \( p < 0.001 \)). In addition, self-control scores were negatively correlated with scores on the BIE comparative control scale (\( r = -0.653 \), \( p < 0.001 \)) and the BIE responsibility without control scale (\( r = -0.466 \), \( p < 0.001 \)), while these last two scales were moderately correlated with each other (\( r = 0.413 \), \( p < 0.001 \)).

As mentioned previously, the correlations of primary relevance to the hypotheses examined in the present study involved depression scores as related to the various
other measures utilized, and it is to these that the
discussion now turns. As for the BIE-depression cor-
relations, virtually all of the hypotheses outlined prev-
iously were supported. Internality scores correlated
negatively and significantly with scores on all three
depression scales (I-DACL r = -.205, p<.05; I-EDI r =
-.220, p<.05; I-SDS r = -.272, p<.01), while scores for
the three "external" scales were positively and signifi-
cantly related to all depression scores (see Table 2),
with correlation coefficients ranging from .204 (p<.05,
F-DACL) to .490 (p<.001, P-BDI). These results are
clearly in accord with the bulk of previous studies
relating depression to the locus of control construct,
and the hypothesis that depression is positively related
to an increasingly "external" orientation was consequently
strongly supported by the results of this study. Three
additional points should be noted:

1) The magnitude of these BIE-depression correlation
coefficients may have been somewhat attenuated, since the
distribution of depression scores tended to gravitate
toward the non-depressed end of the depression continuum;

2) At the same time, this restricted distribution of
depression scores makes generalization of results to the
higher end of the depression continuum somewhat tenuous;

3) As expected, the "state"-oriented depression
instrument (DACL) showed somewhat weaker relationships with the various BIE scales, generally speaking, than did the "trait"-oriented depression instruments (the BDI and the Zung SDS).

The IN/EP scale of the BIE, which assesses the degree to which the respondent simultaneously internalizes responsibility for negative-outcomes while simultaneously externalizing responsibility for positive-outcomes, showed weak relationships with all depression measures, although the IN/EP-BDI correlation closely approached significance ($r = .186$, $p < .10$). Thus the hypothesis that such an orientation may be present within the depressive framework, although not clearly supported by the results of this study, still seems to demand further investigation.

As hypothesized, scores on the self-control scale of the BIE correlated negatively and significantly with all depression measures, with the DACL again showing a weaker relationship ($r = -.220$, $p < .05$) than did the BDI and the Zung SDS ($r = -.448$, $r = -.414$, respectively; $p < .001$). The indication here is that the depressed individual tends to feel a lesser degree of control over his own impulses, desires, and emotions than does the non-depressed individual.

As for the comparative control scale of the BIE, which assesses the degree to which the respondent feels
that he exerts less control over the course of his own life than do other people over theirs, results indicated significant and positive correlations with all depression measures, as hypothesized, with DACL scores again showing a weaker relationship \((r = .356, p<.001)\) than did the BDI and the Zung SDS \((r = .566, r = .560, \text{respectively}; ps<.001)\) scores. These results strongly support Seligman's (1976) assertion that such a view may be present within the depressive framework, consequently allowing the depressed individual to feel simultaneously "helpless" (since he perceives that he exerts a lesser degree of control over his own life than do other people over theirs) and self-blaming (since he may readily conclude that this "loss" of control is, in essence, his own responsibility.)

Finally, scores on the responsibility without control scale of the BIE (which assesses the degree to which the respondent feels responsible for events over which he exerts little or no control) correlated positively and significantly with all measures of depression, as hypothesized \((\text{DACL - R-C } r = .254, p<.05; \text{ BDI - R-C } r = .465, p<.001; \text{ SDS - R-C } r = .263, p<.05)\). These results seem to indicate that with increasing depression there is a greater differentiation between the concepts of "responsibility" and "controllability," consequently allowing
the depressed individual greater flexibility in his
modes of responsibility attribution and thus "clearing
the ground," so to speak, for a greater number and range
of opportunities to exhibit self-blaming behaviors, in
congruence with the dynamics of the depressive framework.

The availability of the BIE-BDI correlation coeffi-
cients obtained in the 1977 study allowed for a direct
comparison of these results with those obtained from the
present study (see Table 3). Statistical comparison of
these correlation coefficients via the Fisher $r$ to $z$
transformation and the comparison formula described by
Hayes (1973) indicated no significant differences between
the parallel correlation coefficients obtained in the
two samples. As a result, it seems reasonable to assert
that the results of the 1977 study have been successfully
replicated in the present study, lending further weight
to the apparent consistency and meaningfulness of the
relationships thus uncovered.

These results suggest that the depressed individual's
seemingly paradoxical tendencies toward feelings of help-
lessness and self-blame are not necessarily as incongruent
as would seem upon first glance. Indeed, there seem to
be at least three ways in which this apparent paradox can
be "resolved" within the depressive framework:

1) The depressed individual may be simultaneously
Table 3

BIE-BDI correlation coefficients:
1977 sample (N = 175) and present sample (N = 94).

<table>
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<tr>
<th></th>
<th>BDI (1977)</th>
<th>BDI (present)</th>
</tr>
</thead>
<tbody>
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<td>I</td>
<td>-.106</td>
<td>-.220*</td>
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<tr>
<td>P</td>
<td>.529***</td>
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<tr>
<td>F</td>
<td>.436***</td>
<td>.448***</td>
</tr>
<tr>
<td>C</td>
<td>.388***</td>
<td>.435***</td>
</tr>
<tr>
<td>IN/EP</td>
<td>.180*</td>
<td>.186</td>
</tr>
<tr>
<td>SC</td>
<td>-.318***</td>
<td>-.448***</td>
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<td>CC</td>
<td>.471***</td>
<td>.566***</td>
</tr>
<tr>
<td>R-C</td>
<td>.405***</td>
<td>.465***</td>
</tr>
</tbody>
</table>

*p < .05
**p < .01
***p < .001
"internal" and "external," but in a very selective manner by which he internalizes responsibility for negative outcomes and externalizes responsibility for positive outcomes, in line with the dynamics of the depressive framework. The correlation of BDI and BIE IN/EP scores in the two samples gives some credence to this view (1977 r = .180, p<.05; present r = .186, p<.10).

2) The depressed individual may feel that he exerts less control over the course of his own life than do others over theirs, thus feeling somewhat "helpless" in regard to many of the events which befall him while concurrently blaming himself for this perceived loss of control over his own life. The correlation of BDI and BIE CC scores in the two samples strongly supports this view (1977 r = .471, present r = .566; p<.001).

3) The depressed individual may differentiate between the concepts of "responsibility" and "controllability," thus allowing for a wider range of self-blaming behaviors by allowing him to feel responsible for outcomes over which he has little or no control. The correlation of BDI and BIE R-C scores in the two samples strongly supports this view (1977 r = .405, present r = .465; p<.001).

Taken as a whole, these results indicate that, at least with respect to perceptions of control and responsibility, the mechanisms which serve to fuel and support
the depressive framework may be quite varied and exceedingly complex, both within and among individuals. Such a view would suggest that depression might best be viewed as a general class of disorders, similar in terms of symptomology, but perhaps quite different in terms of the cognitive mechanisms which serve to maintain it.

Of the 21 correlations involving depression scores and scores on the various WJARS subscales, only one correlation coefficient reached a statistically significant level (Opos-DACL r = -0.303, p<.01). Thus, it seems readily apparent that the WJARS is basically insensitive with respect to "tapping into" those attributional networks stemming from the hypothesized "depressive bias," and the results of this portion of the present study are best summarized by saying that there was a clear non-confirmation of all hypotheses.

Although both Cloze measures for the "depressive soliloquy" correlated positively with all depression measures, only one correlation coefficient reached a statistically significant level (EK-SDS r = 0.205, p<.05). It should be noted that exact matches were correlated with depression scores to a consistently greater degree than were exact plus synonymous matches across all three depression scales (see Table 2). In light of these results, it is somewhat difficult to draw definitive conclusions as to the potential value of this procedure with
regard to quantitatively "picking up" the depressive patterning habits of respondents. However, in view of the multitude of factors which may contribute to the respondent's ability to "close the gaps" in such a depressively patterned communication as the "depressive soliloquy" utilized in the present study (e.g., intelligence, reading ability), these results may be seen as somewhat encouraging, and further research is clearly indicated.

**BIE-BDI MULTIPLE-REGRESSION ANALYSES**

In the final portion of analysis, an attempt was undertaken to determine the degree of depression (as measured by the Beck Depression Inventory) which could be accounted for by perceptions of control and responsibility as assessed by the BIE. Since there was some item interdependence among BIE scales, it was first necessary to partition BIE scales into two independent blocks, as shown in Table 4, with separate results for each block. In all cases, BIE scales were used as predictors of BDI scores.

Using the data obtained from the present sample ($N = 94$), the derived multiple-regression equations (see Table 4 for the multiple-regression weights which resulted) resulted in multiple-correlation coefficients
# Table 4

Results of multiple-regression analysis (N = 94).

<table>
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<tbody>
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<tr>
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Wherry's Estimate

0.6119

0.6017
of 0.6492 (I, P, F, C, SC, CC, & R-C scales) and 0.6241 (IN/EP, SC, CC, & R-C scales), indicating that over 36% of the variance in BDI score was predictable from BIE scores in both cases. Also shown in Table 4 are the estimated population multiple-correlation coefficients for each block, as determined by Wherry's formula (in Cohen & Cohen, 1975, p. 106), giving an approximation of the multiple-correlation coefficients which could be expected for these multiple-regression equations in the subject population. Parallel data from the 1977 study are presented in Table 5.

With the ready availability of the data obtained in the 1977 study, an opportunity to attempt a double multiple-regression cross-validation presented itself, wherein the multiple-regression equations derived from the present sample could be applied to the data stemming from the 1977 sample, and vice versa. As can be seen in Table 6, this double cross-validation procedure resulted in multiple-correlation coefficients ranging from 0.52022 to 0.62317 (all ps < .0001), once again demonstrating that BIE scores can predict a significant portion (27% to 38%) of the variance in BDI scores. The fact that the predictive utility of BIE scales (with BDI scores as the criterion) held up reasonably well through this double cross-validation procedure strongly indicates that perceptions of control
Table 5

Results of multiple-regression analysis in 1977 study (N = 175).

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Wherry's Estimate
Table 6

Results of double multiple-regression cross-validation.

Multiple-regression equations derived from present sample (N = 94) and applied to 1977 sample (N = 175):

I, P, F, C, SC, CC, R-C --- r = 0.55081, p<.0001
NP, SC, CC, R-C ---------- r = 0.52022, p<.0001

Multiple-regression equations derived from 1977 sample (N = 175) and applied to present sample (N = 94):

I, P, F, C, SC, CC, R-C --- r = 0.59765, p<.0001
NP, SC, CC, R-C ---------- r = 0.62317, p<.0001
and responsibility, as embodied by the various subscales of the BIE, serve as an important and integral component of the depressive framework.

It seems quite evident that, as discussed throughout this paper, various facets of the "perceived control" construct do indeed demonstrate consistent and replicable relationships with depression, and that these relationships are quite congruent with theoretical predictions. As for the "paradoxical" nature of depressive functioning, involving feelings of helplessness along with strong tendencies for self-blame, it may be useful to briefly review the three possible modes of conceptual integration suggested by the results of the present study:

1) The depressed individual may be selectively "internal" and "external," tending to internalize responsibility for negative outcomes while simultaneously externalizing responsibility for positive outcomes, in line with the dynamics of depressive functioning;

2) The depressed individual may feel that he exerts less control over the course of his own life than do other people over theirs, thus allowing both for feelings of helplessness (due to his perceived "loss" of control) and self-blame (since he may readily blame himself for this predicament);

3) The depressed individual may not attribute
responsibility on the "logical" basis of controllability (a necessary precondition for the "depressive paradox"), thus allowing greater freedom in the acceptance of blame, again in line with depressive dynamics.

Many questions remain to be answered, and it is hoped that through the creative extension and refinement of the locus of control construct a greater understanding of the mechanisms which serve to support and maintain the depressive framework will gradually emerge, along with more efficacious modes of treatment. One especially intriguing question requiring further research is that of causal directionality --- that is, are certain perceptions and beliefs involving issues of control and responsibility (e.g., as suggested by the results of this study) "causes" of depression, or "symptoms?" In either case, the thorough assessment of such beliefs and perceptions may prove to be of some diagnostic value for the therapist who is dealing with depressed individuals, and may provide him with greater insight into the manner by which the afflicted individual tends to maintain his depressive mode of functioning. This type of understanding would seem to be a necessary prerequisite for the development of more effective methods of intervention and treatment.
REFERENCES


Abramowitz, S. Locus of control and self-reported depression among college students. Psychological Reports, 1969, 25, 140-150.


James, W. Internal vs. external control of reinforcement as a basic variable in learning theory. Unpublished Doctoral Dissertation, the Ohio State University, 1957.


Reid, D. & Ware, E. Multidimensionality of internal vs. external control: Addition of a third dimension and non-distinction of self vs. others. Canadian Journal of the Behavioral Sciences, 1974, 6(2), 131-142.

Rotter, J. Generalized expectancies for internal vs. external control of reinforcement. Psychological Monographs, 1966, 80(1), Whole #609.


Seligman, M. Seminar given at the Ohio State University, Fall quarter, 1976.


APPENDICES

A -- The Within/Without Assessed Responsibility Scale

B -- The "Depressive Soliloquy" adapted for Cloze procedure
   1) text, with deletions
   2) exact and synonymous matches

C -- The Buonocore Internal-External Scale

D -- The Depressive Adjective Check List

E -- The Zung Self-Report Depression Scale

F -- The Beck Depression Inventory
A) Person A has agreed to "babysit" a close friend's 4-month old kitten for a couple of days, as the friend wishes to fly home for the weekend and visit with family. Being very attached to the kitten, the friend makes Person A promise to take extremely good care of the kitten during this time, and leaves a list of instructions and emergency phone numbers with Person A.

The next day, Person A is awakened by a knock at the door. Sleepily, Person A opens the door and finds the mailman standing there with a package. At that moment, the phone rings, and Person A hurriedly accepts the package, swings the door shut, and runs to the phone.
After hanging up, Person A notices that the door did not actually close all the way — indeed, it apparently "bounced" back open as a result of Person A's hasty attempt to close it. With dawning realization, Person A searches desperately for the kitten — first inside, then outside — but to no avail. The kitten is gone.

1 - How responsible is Person A for the loss of the kitten?

2 - If you were Person A, how responsible would you feel?

B) A classmate of Person A, obviously upset over something or other, sits next to Person A in the cafeteria and begins talking about various personal problems and difficulties. Person A, uninterested but trapped, plays with a rubber band and inserts a "yeah" or an "uh-huh" into the conversation at various points, not really paying serious attention to the classmate's disclosures.

Later that night, the classmate's best friend calls to thank Person A, quite sincerely, for the emotional support and understanding given to the classmate during that after-dinner conversation. The classmate, it turns out, was on the brink of giving up school, but had regained confidence and had finally decided to stay after "talking it over" with Person A.

1 - How responsible is Person A for the classmate's regained confidence and consequent decision to stay in school?

2 - If you were Person A, how responsible would you feel?

C) Person A, an undergraduate student at a large university, is cramming for 4 different final exams. It is a Thursday night, and Person A is anxiously working at a feverish pace — exams start Monday, and Person A knows that low grades on any of these exams may result in academic probation.

Just before midnight, Person A's mother (with whom Person A has never really gotten along) calls, and demands that Person A come home for the weekend. Since Person A's mother refuses to give any reasons for this demand, and since she also refuses to listen to Person A's seemingly logical reasons for remaining at school, an argument soon develops, ending only when Person A angrily slams the phone back of the receiver.

The next day, Person A's father calls with the following news: the mother had, during the night,
attempted suicide, and was now in critical condition at a nearby hospital.

1 - How responsible is Person A for the mother's attempted suicide?

2 - If you were Person A, how responsible would you feel?

D) A surprise multiple-choice exam has caught Person A totally unprepared. Unfamiliar with the material covered by the exam, Person A obtains some of the answers by guardedly glancing around at other people's answers when possible, and randomly guesses at the rest.

Surprisingly enough, Person A receives the third highest grade on the exam -- 89 out of a possible 120 points -- and is openly commended by the professor for "academic excellence" as the exams are being returned the following week.

1 - How responsible is Person A for this recognition by the professor?

2 - If you were Person A, how responsible would you feel?

E) Person A's roommate, obviously emotionally immature, has been annoying Person A with overbearing attempts at friendship and consistent demands for attention and inclusion in virtually all of Person A's activities. Suffering from a cold, and fed up with this situation, Person A angrily tells the roommate to "buzz off" and "get out of my life." The roommate, devastated by this outburst, and barely holding back tears, leaves the room hastily.

The next day, Person A receives word that the roommate, seriously depressed, has quit school.

1 - How responsible is Person A for the roommate's quitting school?

2 - If you were Person A, how responsible would you feel?

F) Person A and a friend, having ignored obvious warning signs and barriers, are strolling through an area under heavy construction. Turning a corner, Person A accidentally trips over some loose concrete slabs and crashes into the friend, sending them both sprawling. At that instant, a stack of concrete blocks piled (somewhat carelessly) two stories above them collapses, totally engulfing the
area where they had just been walking.

After the dust has cleared, the friend, pale and shaken, embraces Person A with great emotion, and expresses deep gratitude for Person A's quick thinking and life-saving shove.

1 - How responsible is Person A for saving the friend's life?

2 - If you were Person A, how responsible would you feel?
"Depressive Soliloquy" adapted for Cloze procedure

INSTRUCTIONS: In the following passage, you will find that every fifth word has been deleted. Your task is to guess the missing words, utilizing whatever clues and cues you can ascertain from the remaining context. Please place your "best guess" for each missing word in its appropriate place on the answer sheet.

The color of my 1 always has been and 2 will be black -- the 3 of evil, of utter 4, of existential despair, of 5 futility. How can I 6 hope to adequately describe 7 you the depth of 8 painful emptiness which fills 9, constantly reminding me of 10 total failure as a 11 being? Where did I 12 wrong? Where? Other people 13 to tell me that 14 feelings are irrational and 15, that I am as 16 as anyone else -- but 17 can see the ultimate 18 which they attempt to 19 with their words. I 20 that my life has 21 a dismal failure, and 22 there is no one 23 to blame but myself. 24 I seem terribly helpless, 25 to find the way 26 of the shadows and 27 the light. I am 28 by forces which I 29 control nor understand, forces 30 mockingly push me toward 31. Although others may find 32 and fulfillment in their 33, I am destined for 34 life of failure and 35, of hardship and pain -- 36 is a fate which 37 cannot possibly hope to 38. Perhaps in death I 39 find some relief -- but 40 this seems an empty 41, for deep inside I 42 that I deserve only 43, for I am a 44 of darkness.
"Depressive Soliloquy" adapted for Cloze procedure: exact and synonymous matches

1 - LIFE, world
2 - ALWAYS
3 - BLACK, color
4 - LONELINESS, sadness, despair, hopelessness, helplessness, gloom, pain
5 - INEVITABLE, total, ultimate, endless, constant, neverending, utter, everlasting, eternal, lasting
6 - POSSIBLE, ever, really, honestly
7 - TO
8 - THIS
9 - I
10 - LY
11 - HUMAN
12 - GO
13 - TRY, attempt
14 - MY
15 - UNJUSTIFIED, stupid, senseless, unfounded, dumb, crazy, illogical
16 - GOOD, normal, sane, capable, stable
17 - I
18 - TRUTH
19 - MASK, hide, cover, conceal, disguise, deny, camouflage
20 - KNOW, believe, realize, see, feel
21 - BEEN
22 - THAT
23 - LEFT, else
24 - YET
25 - UNABLE, helpless, incapable
26 - OUT
27 - INTO, in, toward
28 - HOVED, controlled, pushed, directed, pulled, compelled, guided, driven
29 - NEITHER
30 - WHICH, that
31 - DARKNESS, death, oblivion, defeat, destruction, despair, disaster, failure
32 - HAPPINESS, joy, beauty, success, love, peace
33 - LIVES, life
34 - A
35 - EMPTINESS, despair, unhappiness, depression, misery, sadness, defeat, grief, torment, frustration, hopelessness, dissatisfaction, heartache, heartbreak, helplessness, disappointment, punishment, futility, pain, sorrow, suffering
36 - THIS
37 - I
38 - CHANGE, avoid, overcome, alter, control, escape, conquer
39 - WILL, may, can, might
40 - EVEN
41 - HOPE, wish, dream, thought
42 - KNOW, see, realize, feel, believe
43 - PAIN, death, darkness, loneliness, misery, suffering, punishment, despair, failure
44 - CREATURE, man, woman, slave, child, person, being, prince, princess, prisoner, daughter
The Buonocore Internal-External Scale

ITEM #  BIE Scale #1: self as source of control, positive outcomes (I+)

1) When I succeed at something important to me, it's usually because I worked hard at it.

20) My happiness is well within my own control.

35) The successes I have had were the direct result of my own efforts.

59) When I win at something, it is usually due to my own skill and effort.

73) When things go right for me, I know that I am the one who is responsible.

91) My becoming successful and happy depends mostly upon how hard I work at it.

BIE Scale #5: self as source of control, negative outcomes (I-)

2) When a close relationship in which I am involved goes awry, it's usually through some fault of my own.

28) Most of my misfortunes result from my own actions and behaviors.

37) When I fail at something, it's no one's fault but my own.

46) When my life seems to be falling apart, I feel that I am the one who must be held responsible for it.

60) When other people don't like me, it is usually a result of my own personality or behaviors.

81) When I lose at any kind of competition, it is almost always due to my own lack of skill or effort.

93) Were I to be involved in a car accident, it would probably be my own fault.

BIE Scale #9: self as source of control, general (I)

3) In general, what happens to me is my own doing.

15) I am the "master of my fate."

38) My life is determined by my own actions.
48) I can pretty much determine what will happen in my life.

71) I feel that I have adequate control over the direction my life is taking.

102) When I make plans, I am almost certain to make them work.

BIE Scale #2: powerful others as source of control, positive outcomes (P+)

19) Getting ahead in this world depends primarily upon how much influential people like me.

21) Having another person love me is purely dependent upon his/her whims and desires.

36) Getting what I want requires pleasing those people above me.

72) When I win at a game, it is often because the other person wasn't very good at it.

80) My own happiness often seems to result from the favorable actions of those around me.

92) When I do really well at something, it is usually due to someone else's helping me along in some way or other.

BIE Scale #6: powerful others as source of control, negative outcomes (P-)

4) When a powerful person opposes some pursuit which is important to me, I usually feel that I may as well give up, since my efforts will probably prove useless.

39) Were I to be involved in a car accident, it would probably be the other driver's fault.

47) My failure to reach some of my goals has often been due to someone else's getting in my way somehow or other.

82) My failures and disappointments have usually resulted from someone else's interference in some way or other.

94) When things go wrong for me, it is almost always due to the actions of someone else.
BIE Scale #10: powerful others as source of control, general (P)

14) Those people above me exert tremendous control over what happens to me.

22) My life is chiefly controlled by powerful others.

49) I feel like what happens in my life is mostly determined by powerful other people.

70) Up to this point in my life, it seems as though other people have had more of an influence on my life's course than I have.

101) In order to have my plans work, I make sure that they fit in with the desires of those people who have power over me.

BIE Scale #3: outside forces as source of control, positive outcomes (P+)

5) When unexpected good things happen to me, I sometimes feel that I am being "rewarded" for something I have done.

29) When I really feel great, I sometimes think that it is due to the "peaking" of some biological or psychic cycle within me.

40) When I make the right decisions in my life, I often feel that some powerful outside force gave me the guidance I needed.

50) My moments of happiness seem to result from the actions of forces outside of me.

86) My "good" days seem to follow some sort of a pattern regulated by outside influences beyond my control.

103) When things go surprisingly well for me, I sometimes feel that it is due to the intervention of some unknown but benevolent outside force.

BIE Scale #7: outside forces as source of control, negative outcomes (P−)

13) When something bad happens to me, I often believe that it is punishment for something I have done.

18) Many of my weaknesses and failings are a result of my upbringing, leaving me more or less "stuck" with them.
52) My really "bad" days seem to be pre-destined to be bad from the start.

69) Even though I have some understanding of the outside forces which affect my life, I still don't seem to be able to control things very well when they start to go poorly.

105) When something goes wrong for me, I often feel that it is the result of some outside power beyond my understanding.

BIE Scale #11: outside forces as source of control, general (F)

12) I often realize that despite my best efforts some outcomes seem to happen as if fate planned it that way.

17) God will take me from this life when he sees fit to do so.

24) My life's course often appears to be largely predetermined by some external force.

31) I have usually found that what is going to happen will happen, regardless of my actions.

42) It seems clear to me that some Supreme Being or force exerts a tremendous influence over my life.

53) I feel that I have some destiny to fulfill.

62) In many situations what happens to me seems to be determined by fate.

74) My life is strongly influenced by forces which I neither control nor understand.

79) My life is largely controlled by the will of God.

83) I believe that my life and death are pre-determined, and that I am powerless to make any changes.

88) When I have a difficult decision to make, I often hope for the guidance of some powerful outside force rather than turning to other people.

100) I often feel that my life is largely controlled by outside forces which I do not understand.
BIE Scale #4: chance as source of control, positive outcomes (C+)

6) When things are going well for me, I consider it due to a run of good luck.

23) Getting a good job depends mainly on being in the right place at the right time.

41) My finding true happiness is largely chance-determined.

51) When good things happen to me, it's usually due to my being lucky.

87) Finding someone who will love me is mostly a matter of luck.

95) Having good friends is simply a matter of my being lucky enough to find them in the first place.

BIE Scale #8: chance as source of control, negative outcomes (C-)

11) The time and manner of my death is totally a matter of chance.

30) Many of the things in my life which make me unhappy are at least partly due to bad luck.

61) Most of my accidents have been due primarily to bad luck.

68) Failures and setbacks in my life are just due to chance factors which are inevitable.

104) My becoming seriously ill in the future is just a matter of chance.

BIE Scale #12: chance as source of control, general (C)

8) Luck clearly plays an important role in my life.

16) To a great extent, my life is controlled by accidental happenings.

54) Living my life often seems like playing a game of chance.

58) A great deal of what happens to me is probably a matter of chance.
75) I think that life is largely a gamble.

99) It's not always wise for me to plan too far ahead, because many things turn out to be a matter of good or bad fortune anyhow.

**BIE Scale #14: self-control (SC)**

9) Sometimes I impulsively do things which at other times I would definitely not let myself do. (R)

27) I frequently find that when certain things happen to me I cannot restrain my reactions. (R)

34) I always feel in control of what I am doing.

45) I find that I can almost always keep my impulses under control.

57) There are moments when I cannot subdue my emotions and keep them in check. (R)

65) Although sometimes it is difficult, I can always willfully restrain my immediate behavior.

67) It is possible for me to behave in a manner very different from the way I would want to behave. (R)

78) When I make up my mind, I can always resist temptation and keep control of my behavior.

85) It would be impossible for me to have complete mastery over all of my behavioral tendencies. (R)

97) Even when there is nothing forcing me, I find that I will sometimes do things I really do not want to do. (R)

106) When I put my mind to it I can constrain my emotions.

**BIE Scale #15: control over one's own life as comparatively less than others' control over their lives (CC)**

10) Things tend to get "out of control" for me much more often than for most other people I know.

26) Other people seem to have more control over their lives than I do over mine.

33) It often seems as though I can get what I want much more easily than can others. (R)
Although most people are largely the "masters of their fates," it seems as though I am not.

Uncontrollable outside forces direct my life to a much greater extent than the lives of most other people.

I have as much or more control over my life as do others over theirs. (R)

Although others may often find their lives going "out of control," this rarely if ever happens to me. (R)

I do not seem to be able to exert as much control over my life's course as those around me do over theirs.

Many people I know seem to exert less control over what happens to them than I do over what happens to me. (R)

Others seem to be able to get what they want much more easily than I can.

BIE Scale #16: responsibility without control (R-C)

Even though I may have little or no control over what happens, I still feel that my life is my responsibility.

When someone close to me is feeling really bad, I often somehow "know" that it was at least partially my fault, even though I feel helpless with regard to understanding, rectifying, and avoiding this occurrence in the future.

Although I may have little control over things which happen to me, I still feel responsible for them to a large degree.

Although the behavior of those close to me is really beyond my control, I still tend to feel responsible when they do something wrong or have something bad happen to them.

I tend to blame myself for failures even when uncontrollable circumstances may have had a lot to do with it.

Regardless of outside forces which may adversely affect my life, when things go wrong I usually blame myself in some way or other.
66) I often upset or hurt other people without meaning to or understanding what I did wrong and how to avoid it in the future.

76) When things go wrong due to circumstances beyond my control, I still tend to feel that it was somehow my fault.

89) Although I feel little control over my life, I nonetheless feel a tremendous weight of responsibility on my back.

96) Even though I realize that most of what happens in my life is beyond my control, I still feel that the weight of responsibility for these things must lie with me.
Depressive Adjective Check List (G)

DIRECTIONS: Below you will find words which describe different kinds of moods and feelings. Check the words which describe How You Feel Now — Today. Some of the words may sound alike, but we want you to check all the words that describe your feelings. Work rapidly and check all of the words which describe how you feel today.

1. □ Heartsick 18. □ Enthusiastic
3. □ Sad 20. □ Griefstricken
5. □ Lonesome 22. □ Drained
6. □ Fine 23. □ Desolate
7. □ Alone 24. □ Miserable
8. □ Gloomy 25. □ Merry
10. □ Alive 27. □ Melancholy
11. □ Heavy-hearted 28. □ Interested
12. □ Failure 29. □ Unwanted
14. □ Despondent 31. □ Whole
15. □ Sunk 32. □ Oppressed
16. □ Optimistic 33. □ Lifeless
17. □ Jovial 34. □ Elated
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**INSTRUCTIONS:** Below you will find a list of 20 statements. Please indicate how these statements relate to you by placing a check mark in the appropriate box. In determining your responses, please think in terms of the past two weeks or so.
Beck Depression Inventory

INSTRUCTIONS: This section includes 21 groups of statements. Read all of the statements in each group, and then select the one statement which best describes the way you feel today — that is, right now. If you absolutely cannot decide between two statements, then indicate both of these answers on your answer sheet.

1 - a) I do not feel sad
    b) I feel blue or sad
    c) I am blue or sad all the time and I can't snap out of it
    d) I am so sad or unhappy that it is quite painful
    e) I am so sad or unhappy that I can't stand it

2 - a) I am not particularly pessimistic or discouraged about the future
    b) I feel discouraged about the future
    c) I feel I have nothing to look forward to
    d) I feel that I won't ever get over my troubles
    e) I feel that the future is hopeless and that things cannot improve

3 - a) I do not feel like a failure
    b) I feel I have failed more than the average person
    c) I feel I have accomplished very little that is worthwhile or that means anything
    d) As I look back on my life all I can see is a lot of failures
    e) I feel I am a complete failure as a person

4 - a) I am not particularly dissatisfied
    b) I feel bored most of the time
    c) I don't enjoy things the way I used to
    d) I don't get satisfaction out of anything anymore
    e) I am dissatisfied with everything

5 - a) I don't feel particularly guilty
    b) I feel bad or unworthy a good part of the time
    c) I feel quite guilty
    d) I feel bad or unworthy practically all the time now
    e) I feel as though I am very bad or worthless

6 - a) I don't feel I am being punished
    b) I have a feeling that something bad may happen to me
    c) I feel I am being punished or will be punished
    d) I feel I deserve to be punished
    e) I want to be punished
7 - a) I don't feel disappointed in myself  
   b) I am disappointed in myself  
   c) I don't like myself  
   d) I am disgusted with myself  
   e) I hate myself  

8 - a) I don't feel I am any worse than anybody else  
   b) I am critical of myself for my weaknesses or mistakes  
   c) I blame myself for my faults  
   d) I blame myself for everything bad that happens  

9 - a) I don't have any thoughts of harming myself  
   b) I have thoughts of harming myself but I would not carry them out  
   c) I feel I would be better off dead  
   d) I feel my family would be better off if I were dead  
   e) I have definite plans about committing suicide  
   f) I would kill myself if I could  

10- a) I don't cry anymore than usual  
   b) I cry now more than I used to  
   c) I cry all the time now -- I can't stop  
   d) I used to be able to cry but now I can't cry at all even though I want to  

11- a) I am no more irritated now than I ever am  
   b) I get annoyed or irritated more easily than I used to  
   c) I feel irritated all the time  
   d) I don't get irritated at all at the things that used to irritate me  

12- a) I have not lost interest in other people  
   b) I am less interested in other people now than I used to be  
   c) I have lost most of my interest in other people and have little feeling for them  
   d) I have lost all my interest in other people and don't care about them at all  

13- a) I make decisions about as well as ever  
   b) I try to put off making decisions  
   c) I have great difficulty in making decisions  
   d) I can't make any decisions at all any more  

14- a) I don't feel I look any worse than I used to  
   b) I am worried that I am looking old or unattractive  
   c) I feel that there are permanent changes in my appearance and they make me look unattractive  
   d) I feel that I am ugly or repulsive looking
15- a) I can work about as well as before  
   b) It takes extra effort to get started at doing something  
   c) I don't work as well as I used to  
   d) I have to push myself very hard to do anything  
   e) I can't do any work at all  

16- a) I can sleep as well as usual  
   b) I wake up more tired in the morning than I used to  
   c) I wake up 1 - 2 hours earlier than usual and find it hard to get back to sleep  
   d) I wake up early every day and can't get more than 5 hours sleep  

17- a) I don't get any more tired than usual  
   b) I get tired more easily than I used to  
   c) I get tired from doing anything  
   d) I get too tired to do anything  

18- a) My appetite is no worse than usual  
   b) My appetite is not as good as it used to be  
   c) My appetite is much worse now  
   d) I have no appetite at all any more  

19- a) I haven't lost much weight, if any, lately  
   b) I have lost more than 5 pounds  
   c) I have lost more than 10 pounds  
   d) I have lost more than 15 pounds  

20- a) I am no more concerned about my health than usual  
   b) I am concerned about aches and pains or upset stomach or constipation  
   c) I am so concerned with how I feel or what I feel that it's hard to think of much else  
   d) I am completely absorbed in what I feel  

21- a) I have not noticed any recent change in my interest in sex  
   b) I am less interested in sex than I used to be  
   c) I am much less interested in sex now  
   d) I have lost interest in sex completely