



National Library of Canada · Bibliothèque nationale du Canada

Ottawa, Canada
K1A 0N4

TC -

63133

ISBN

0-315-15884-9

CANADIAN THESES ON MICROFICHE SERVICE - SERVICE DES THÈSES CANADIENNES SUR MICROFICHE

PERMISSION TO MICROFILM - AUTORISATION DE MICROFILMER

Please print or type - Écrire en lettres moulées ou dactylographier

AUTHOR - AUTEUR

Full Name of Author - Nom complet de l'auteur

MEREDITH ANN RUSSELL

Date of Birth - Date de naissance

16/08/49

Canadian Citizen - Citoyen canadien

Yes / Oui

No / Non

Country of Birth - Lieu de naissance

CANADA

Permanent Address - Résidence fixe

care of:
DR. P. J. MILNE
120 LILAC ST.
HALIFAX, N.S. B2A 1N4

THESIS - THÈSE

Title of Thesis - Titre de la thèse

FUTURE GOAL Attainment Expectations
A LIFE STRESS Mediator in Depression Onset.

Degree for which thesis was presented
Grade pour lequel cette thèse fut présentée

B.Sc. (Applied Psychology)

Year this degree conferred
Année d'obtention de ce grade

1984

University - Université

SANT MARY'S UNIVERSITY

Name of Supervisor - Nom du directeur de thèse

DR. CAROL PYE

AUTHORIZATION - AUTORISATION

Permission is hereby granted to the NATIONAL LIBRARY OF CANADA to microfilm this thesis and to lend or sell copies of the film.

L'autorisation est, par la présente, accordée à la BIBLIOTHÈQUE NATIONALE DU CANADA de microfilmer cette thèse et de prêter ou de vendre des exemplaires du film.

The author reserves other publication rights, and neither the thesis nor extensive extracts from it may be printed or otherwise reproduced without the author's written permission.

L'auteur se réserve les autres droits de publication, ni la thèse ni de longs extraits de celle-ci ne doivent être imprimés ou autrement reproduits sans l'autorisation écrite de l'auteur.

ATTACH FORM TO THESIS - VEUILLEZ JOINDRE CE FORMULAIRE À LA THÈSE

Signature

Meredith A. Russell

Date

Future Goal Attainment Expectations:
A Life Stress Mediator in Depression Onset.

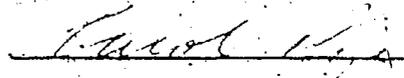
A Thesis Submitted in Partial Fulfillment of the
Requirements for the
Degree of Master of Science in Applied Psychology

© Meredith Russell

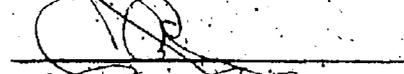
Saint Mary's University, Halifax, N.S.

July, 1984

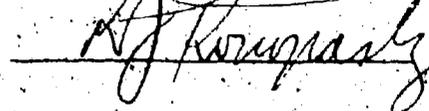
Approved by



Approved by



Approved by



Abstract

A goal related model of clinical depression is presented. The central premise suggests that (a) expectation for the uncontrollability of goal related important future outcomes and/or (b) life stressors that threaten high priority future goal attainment and/or (c) environmental shifts that disrupt or block responses involved in high priority future goal attainment and/or (d) chronic low self-esteem related to skills viewed as necessary to high priority future goal attainment may lead alone or in conjunction to a negative view of the probability of future goal attainment. This negative future view is postulated as the critical factor in the etiology of depression. The present study was designed as a preliminary test of one aspect of this model. The model predicts life stressors will be correlated with depression only when the stressors can be viewed as disrupting progress towards a desired future state. The Social Readjustment Rating Scale and the Life Event Schedule were refined to take into consideration the importance of the goal area related to each life event. The prediction was that the goal based refined measures would account for more of the variance in depression scores than the measures in the original form. This premise was tested on 76 undergraduate students at Saint Mary's University, 48 female and 28 male. Results were in the predicted direction.

Table of Contents

Introduction:	3
Current Approaches: Brief Summary	7
A: Learned Helplessness Model	8
B: Negative Cognitive Triad (Beck 1967)	
C: Behavioral Approaches	
D: Stress Research	
Integration:	14
Life Events	
Learned Helplessness	
Self-Esteem	
Difference in Sex Incidence	
The Model:	25
Proposal to Test an Aspect of the Model	
Method:	25
Subjects	
Measures	
Predictor Variables	
1. Goal Priority Form	
2. Social Readjustment Rating Scale	
3. Life Experiences Schedule	
4. Weighted Social Readjustment Rating Scale	
5. Weighted Life Event Survey	

Dependent Variable

1. Beck Depression Inventory

Procedure:

30

Step One: Goal Priority Form Administration

Step Two: Social Readjustment Rating Scale
Administration

Step Three: Matching Forms, Steps One and Two

Step Four: Administration of Life Event Schedule,
Beck Inventory of Depression Inventory
and Second Goal Ranking

Results:

34

First Goal Area Rankings

Second Goal Area Rankings

Social Readjustment Rating Scale

Life Event Schedule

Weighted Social Readjustment Rating Scale

Weighted Life Event Schedule

Beck Depression Inventory

Paired Regressions

Discussion:

40

Goal Priorities

Life Stressors and Beck Depression Inventory

Beck Depression Inventory

Weighted Measures

Paired Regressions

	5
Implications for Other Depression Models	
Summary:	51
References:	52
Appendixes:	58
A. Social Readjustment Rating Scale	
B. Goal Priority Form	
C. Life Experiences Survey	
D. Weighted Social Readjustment Scale and Weighted Life Event Schedule	
E. Beck Depression Inventory	
F. Frequency of Responses: Life Experiences Survey	
Table One: Predominant Goal Pattern - First Ranking	77
Table Two: Goal Area Pattern: Female Subjects	
Table Three: Goal Area Pattern: Second Goal Ranking	
Table Four: Predominant Pattern: Second Goal Ranking	
Table Five: Goal Area Pattern: Female Subjects	
Table Six: Goal Area Pattern: Male Subjects	
Table Seven: Mean Change Scores	
Table Eight: Weighted Social Readjustment Rating Scale Scores	
Table Nine: Weighted Life Event Schedule Scores	
Table Ten: Results of the Paired Regressions: Stress Measures on Depression Scores	
Figure One: Relationship of Learned Helplessness to Depression Onset	21
Figure Two: The Model	26

Figure Three: Distribution of Social Readjustment
Rating Scale

Figure Four: Distribution of Female Social Readjustment
Rating Scale Scores

Figure Five: Distribution of Male Social Readjustment
Rating Scale Scores

Figure Six: Distribution of Life Event Schedule Scores

Figure Seven: Distribution of Female Life Event Schedule
Scores

Figure Eight: Distribution of Male Life Event Schedule Scores

Figure Nine: Distribution of Beck Depression Inventory Scores

Figure Ten: Distribution of Female Beck Depression Inventory
Scores

Figure Eleven: Distribution of Male Beck Depression Inventory

Future Goal Attainment Expectations:

A Life Stress Mediator in Depression Onset

The DSM III, in describing both a major depressive episode and dysthymic disorder, uses the term mood, a disturbance in mood being the essential feature in both cases. Becker (1974) notes the presence of a mood state must always be inferred or interpreted. Even when mood is objectively observable, the referent is a pattern of responses (affective, physiological, cognitive and behavioral) rather than any single response alone. If we define depression as an altered mood state, typified by the pattern of responses specified in DSM III, it follows, then, that any adequate theory of depression should allow for an explanation of the occurrence of affective, physiological, cognitive as well as behavioral responses. This raises the question as to whether a biological, cognitive or behavioral theory taken alone can realistically be expected to provide a comprehensive account. Blaney (1977) concludes that three of the major current theories, Beck (1967), Lewinsohn (1974) and Seligman (1974) taken together suggest the importance of three variables: perception, control of outcomes and reinforcement rate. Blaney suggests that each

element may be sufficient but not necessary to depression. An examination of the extensive literature generated by depression research suggests the validity of Blaney's first point. Taken as a whole, the literature is valuable and suggestive. It is possible to abstract a large number of biological, cognitive and behavioral variables that can apparently be validly viewed as possible contributors to depression (Depue, 1979).

The position taken in this thesis, reflects a view that behavioral and cognitive data generated by the different models of clinical depression are not necessarily contradictory but, rather, reflect different levels of the investigation of a complex disorder. A goal based model of depression is suggested as a framework for the integration and interpretation of both types of data. It is further suggested that such a model is compatible with physiological data and could fit into an integrative approach such as that suggested by Akiskal and McKinney (1973).

Current Approaches: Brief Summary

A. The learned helplessness model of depression (Abramson, Seligman, Teasdale, 1978; Seligman, 1974), was developed from laboratory experiments with dogs. Dogs were subjected to unavoidable shocks. After a period of initial struggle, they passively endured the stimulus. When escape was made possible,

the dogs made no effort to avoid the shock. Seligman called this learned helplessness and suggested depression in humans could result from a generalized expectation for the uncontrollability of future outcomes. Conflicting research results led to a reformulation of this original position. This reformulation largely involved appending attribution theory to the model. The individual's attribution process was seen as the mediating factor determining whether or not the experience of non-contingent outcomes would lead to learned helplessness. Stable, global, and internal attributions are viewed as those leading to the helplessness phenomenon. The addition of attribution theory greatly complicated the model. In its wake came an enormous body of research literature, including studies providing some support for the reformulated model, as well as a number of papers presenting viable alternative explanations for the helplessness effect. (Hiroto, 1974; Kuhl, 1981; Bensen and Kennelly, 1976; Wortzman and Dentzer, 1978; Diener and Dweck, 1978; McReynolds, 1980; Kuiper, 1978). While the central concept that a generalized expectation for the uncontrollability of future outcomes is related to depression, has not been shown to be invalid and also has considerable intuitive appeal, the model as it now stands is too unwieldy to be predictive. Also as Blaney points out it has not been shown that Helplessness is specific to

depression.

In addition, while much of the research on the model has been experimental rather than correlational in nature, it can be questioned whether a temporarily lowered mood level, induced by experimental manipulation is qualitatively similar to naturally occurring depressed affect.

B. Beck (1967) suggests a negative cognitive triad is responsible for clinical depression. This triad consists of three cognitive patterns, a negative set about self, a negative interpretation of ongoing experience and a negative view of the future. The individual is seen as interpreting reality in terms of this negative bias, ignoring or not perceiving that less negative, more realistic alternative interpretations are possible. Negative cognitive bias is viewed as resulting in the individual's making unrealistic interpretations about self, present and future. Alloy and Abramson (1979, 1981) speculate that the depressed individual may not suffer from the presence of depressogenic cognitive bias but rather from the absence of non-depressive cognitive bias. Such an interpretation has intuitive appeal in light of the correlation between life stressors and depression. The depressed person generally does appear to have some realistic basis for a negative view of his/her life situation. Regardless, as Blaney (1977) points out, no theory

denies that depressed persons have depressed thoughts but correlational studies fail to prove that the cognitive manifestations are primary. While Blaney, does acknowledge that there is experimental data to support the hypothesis that affective states can be influenced by cognitive manipulation, (Velten, 1968), he notes such data are open to interpretation and that there is no evidence that negative cognitions are the causal factor. Blaney cites a Ludwig 1975 study in which depressed mood state was induced in female subjects by presenting bogus psychological test results indicating the subjects were immature and uncreative. While this appears to support the idea that depressed mood may result from a lowering of an individuals' level of self-esteem, Blaney points out that it has not been shown that reading self-derogatory feedback is more depressing than reading other statements of a dreary or pessimistic nature. It may also be that the apparent lowered self-esteem is only indirectly related to the depressed mood. It may be that the depression results from a negative view of obtaining some future state that is viewed as contingent on possession of self-esteem in the area of the bogus test results.

In short, Beck's model is open to alternative interpretations.

C. Ferster (1965) believes the core feature of depression

is reduced frequency of the emission of positively reinforced behavior. Becker (1974) in discussing Eyster's position states large segments of behavior can be under the restricted control of very limited aspects of the environment. In such situations abrupt shifts in the controlling environment may result in a failure to elicit many performances within the persons behavioral repertoire. Such shifts may lead to situations wherein (1) a person's present behavioral repertoire is inappropriate, no longer resulting in the same level of positive reinforcement; (2) a source of positive reinforcement is no longer available and alternative reinforcers are not yet established. It would also seem possible that the emission of some previously positively reinforced behaviors may now produce aversive consequences.

Lewinsohn (1974) hypothesizes that depression is directly related to rates of response contingent positive reinforcement. Lewinsohn, Youngren and Grosscup (1979) explained this suggesting that high rates of occurrence of aversive events, leads to the attenuation of behavior. This in turn, is viewed as leading to low rates of behavior, lowered mood level and reduced ability to enjoy positive events temporally related to those having aversive consequences.

While there are data to support a relationship between such reinforcement contingencies and depressive affect; (Lewinsohn and

Tibet, 1972); as Lewinsohn, Youngren and Grosscup, 1979, point out the direction of the relationship is unclear. In addition the behavioral models do not account for those cases where large shifts in the environment do result in such altered contingencies without also resulting in depressive affect.

D. Research on stress and depression suggests stressful events may be important in triggering depression onset, (Brown 1979; Dohrenwend and Dohrenwend, 1974; Sarason, Johnson and Seigel, 1978) and that exit events in particular appear predictive, (Paykel, Myers, Diehselt, Klerman, Linderthal and Peper, 1969; Prusoff and Paykel, 1974).

A stressful event is generally defined as one that leads to change in the overall life pattern of the individual. Holmes and Rahe, (1967) combine both positive and negative events in assessing stress levels. Sarason et al. (1978) argue that undesirable events may have a different and potentially more detrimental effect on the individual and therefore conceptualize life stress in terms of events having a negative impact. These researchers found, in two comparison studies, that a stress measurement based only on negative events had a significantly higher correlation with adjustment measures than did the Holmes and Rahe index based on both pleasant and negative events.

Dohrenwend and Dohrenwend (1979) point to problems in both

the above life event approaches and in stress research in general. Unless the researcher can date the events as occurring prior to the onset of psychopathology, it remains unclear whether the life events are consequences of or causes of the psychopathology. As in other areas of depression research, experimental designs have not generally been longitudinal. Indeed, independent and dependent measures are often obtained concurrently, with stressors being retrospectively rated. The bias in retrospective designs has been well documented (Cook and Campbell, 1979).

Dohrenwend and Dohrenwend also point out that some of the events are confounded with psychiatric conditions. For example, both Holmes and Rahe and Sarason et al., include major change in sleeping patterns, which is a symptom of clinical depression.

Dohrenwend and Dohrenwend also note the inability of current stress measures to predict the type of psychopathology that will result. The authors suggest this may be the result of the lack of differentiation among types of stressors. Certainly a major shortcoming of present stress models is their inability to predict when stressors will lead to psychopathology and when they do, the specific nature of the resulting disorder.

Integration

It appears that a viable model of depression must be able to

account for the correlation between life stressors and depression, between lowered rates of positive reinforcement, aversive situations and depression, between the generalized expectation for the uncontrollability of future outcomes and depression and between low self-esteem and depression. In addition, it should provide an account of the difference in incidence between the sexes. Studies indicate that in the adult population approximately 18%-23% of females as compared to 8%-11% of males have experienced a major depressive episode (DSM III). A Weisman and Klerman (1977) study reports a similar difference in sex incidence.

Life Events

Dohrenwend and Dohrenwend (1974) note the lack of consensus on a definition of the term stress. Generally it is used to refer to the sum of the pressures on an individual, as a result of a life stressor. A life stressor is defined as an event that results in changes to the life pattern of an individual. This is consistent, also, with the behavioral definition of an environmental shift. Holmes and Rahe (1967) report that one theme common to the 43 life events comprising the Social Readjustment Rating Scale (see Appendix A) was the association of the event with the necessity of some coping or adaptive behavior on the part of the individual. Such a life event clearly may

also be viewed as an environmental shift and subsequently documented in behavioral terms according to the amount of positive reinforcement no longer available, the number of alternative reinforcers available and the aversive consequences of the situation. Sarason, Johnson and Siegel (1978) argue that the type of impact a given event will have may vary considerably, depending on whether the event is perceived as desirable or undesirable. Sarason et al. suggests that only events with a negative impact are predictive of depressive symptomatology. This brings a cognitive variable (perception of the event) into a model which in its original form could be interpreted strictly at a behavioral level. The two positions are not orthogonal and definitely not mutually exclusive except in terms of the interpretation of the data generated by the proponents of the different positions. From either perspective we are still left with the question, why do environmental shifts and/or life stressors disrupt a large portion of an individual's established behavioral repertoire, have aversive consequences and still not necessarily result in the onset of depression?

Brown (1979) defined a stressful event in a unique way. The meaning the subject assigned to the event was not taken at face value. Brown argued that if one could find out about a person's plans or goals relevant to the event, one could make a reasonable

estimate of its meaning and thus gauge its true stressfulness.

With respect to Brown's methodological decision, it should be noted Stotland (1969, pp. 34) suggested a goal attainment theory of depression. He postulated that, "the greater the importance of a goal and the lesser its probability of attainment, the higher the level of anxiety. But since the motivation to act derives largely from the perceived probability of attaining important goals, diminishing the importance of the goal lessens motivation. Thus the reaction to lowered goals is depression, apathy and withdrawal". Becker (1974, pp. 107) states this may account more accurately for apathy than for depression. Becker quotes Mower, "the miserable and tortured inactivity of the depressed, reflects not a lack of motivation but a sense of utter futility about the utility of action." Reinterpreting Stotland's position; a lack of motivation or in Becker's words, "apathy" can be viewed as the result of a sense of utter futility associated with the perception that an important future goal cannot be obtained. Stotland appears to be suggesting that diminishing the importance of the goal lessens motivation, which in turn leads to depressive symptomatology. The alternative being put forth here suggests that it is when an individual is not able to devalue or diminish the importance of a goal, in spite of the perception that the probability of attaining it is

very low, that depressive affect results. Motivation to attain the goal is not viewed as reduced but rather blocked. The individual may still be highly motivated to attain the goal but sees no actions available for accomplishing this. It is then precisely because the goal retains importance, while the perceived probability of attaining it is minimal, that depressive affect results.

Brown also rated events in terms of short term or long term threat to the individual's plans or goals. This turned out to be a critical distinction. Results suggested short term threatening events were orthogonal to onset of depression, while long term threatening events were correlated with depression. Brown does not offer an explanation. There is no attempt to interpret this data in terms of the methodological decision to evaluate the meaning of an event in terms of future plans and goals. The results suggest, especially in view of the non-significant effect of short term threatening events, that disruption of goal related behavior and in particular threats to long term plans or goals are factors in depression onset. Short term threats can be viewed as temporary obstacles to future goal attainment and as such will not reduce the perceived probability of the attainment of important future goals. Long term threats however can be viewed as those extending into the future. It is suggested that

such threats will generally reduce the perceived probability of attaining a given future state. It may be that environmental shifts or life stressors that are seen as disrupting or blocking the attainment of important future goals are predictive of depression, as opposed to stressors or environmental shifts that are not seen as having implications for the attainment of desired future states. From this perspective one would predict that threatening events having consequences in the future (long term) would correlate with depression while those viewed as having limited consequences (short term) would not.

Learned Helplessness

This model is also based on life events to the extent that learning that outcome is not always contingent on response can be viewed as developing from life situations. In the more cognitive reformulated version of the model, this learning is seen as mediated by an individual's attribution process. It is not clear that there is always a generalization of the helplessness effect across situations (Cole and Cayne, 1977). It is possible an individual may have a generalized expectation for the uncontrollability of certain classes of outcomes as opposed to all outcomes. So, for example, an individual might believe he/she can control outcomes at his/her place of employment, yet believe outcomes in personal relationships are not contingent on

response. It is suggested that learned helplessness contributes to depressive effect only when it is directly related to classes of outcomes that are perceived as necessary to the attainment of important future goals. The predictive factor becomes whether or not there is a sense of utter futility about the utility of action, associated with the probability of attainment of an important life goal. How an individual makes an attribution becomes secondary. The attribution process is viewed as a causal factor in the development of learned helplessness. Learned helplessness itself is viewed as one more variable that could lead to a negative view of the probability of future high priority goal attainment (see Figure 1).

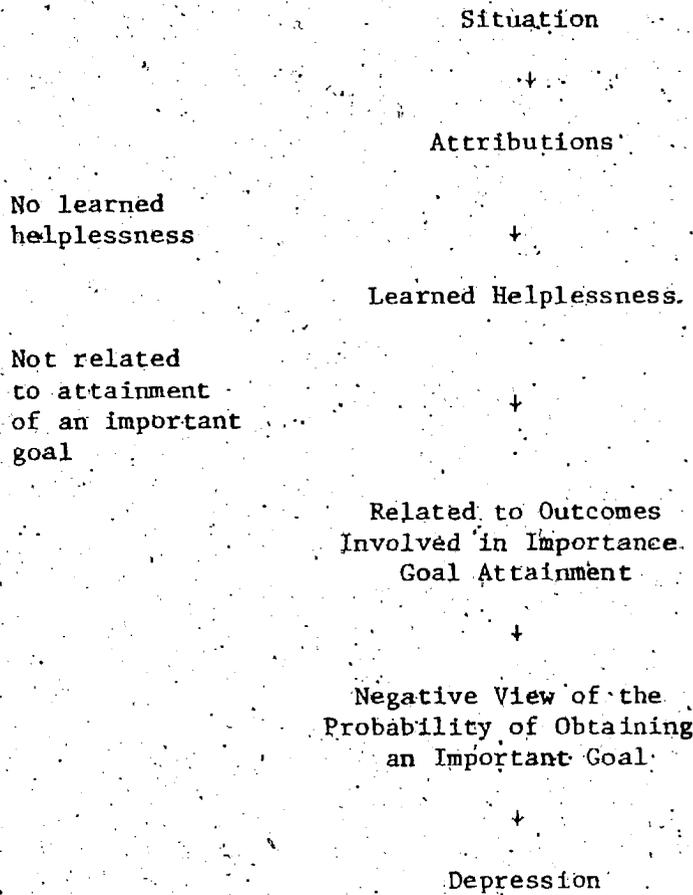
Self-Esteem

Beck (1967) views depression in terms of a negative cognitive triad -- negative view of self, negative view of present, negative view of future. Most of the attention has focused on negative view of self. Low self-esteem has long been considered an important causal factor in the development of depression.

Becker (1974, pp. 317) states, "In some depressives, chronically low self-esteem seems to operate like a classical trait disposition, the cognition-affect is broadly transituational and relatively independent of identifiable

Figure 1

Relationship of Learned Helplessness to Depression Onset



events. In other depressives, diminished self-esteem is triggered by a broad range of situations so that low self-esteem acts like a widely generalized stress response. In still others, there seems to be complex interactions between self-esteem and particular events; in some these stressors elicit a generalized deflation in self-esteem, whereas others experience a "circumscribed deflation". This differentiation is based on clinical observation.

Becker goes on to state that self-esteem is a cognitive affective product of the self-evaluation process. But an important part of any self-evaluation process involves an evaluation of self-progress towards the attainment of desired future states. A desired future state implies goals towards which the individual strives. These may pertain to what an individual would like to do, what they would like to have or how they would like to be perceived. Viewing self-esteem as a product of the self-evaluation process permits an explanation as to why self-esteem loss associated with depression does not always or even generally follow the same pattern, sometimes occurring as a generalized deflation and other times occurring in a circumscribed manner and so on. It also offers an explanation for those cases wherein low self-esteem is not associated with clinical depression. Self-esteem is seen as related to future

goals via the self-evaluation process. This relationship can be viewed as double edged. When progress towards an important future goal is viewed as blocked, the self-evaluation process may lead to lowered self-esteem pertaining to those behaviors that were related to goal attainment. If several important goals were blocked, the self-evaluation process may lead to a more generalized loss of self-esteem. From this perspective low self-esteem is seen as the result of a negative self-evaluation and if the individual also believes the probability of obtaining the desired goal is poor, then low self-esteem will appear as a symptom in the resulting depression. However, when the self-evaluation process has resulted already in chronic generalized or circumscribed low self-esteem in an important goal related area, then it can be viewed as one more variable leading to a negative view of the probability of future high priority goal attainment.

Difference in Sex Incidence

Brown (1979, pp. 270) states "the distinctive feature and most of the severe events that were related to depressive conditions, involved the experience of actual or threatened major loss". Loss was defined as "threat" of or actual separation from a key figure, an unpleasant revelation about someone close, forcing a major reassessment of the relationship, a life threatening illness to someone close, a major material loss or

disappointment or threat of it and finally miscellaneous crises involving events such as redundancy after a long period of employment". Traditionally males and females have tended towards different types of goals, females weighing more prominently those related to family life, child-rearing and friendship (Sherman, 1974). It is suggested these goals are the most readily disrupted, threatened or lost by social exits. Paykel et al. (1969) obtained results suggesting exits were strikingly more common in depressives than controls. A Prusoff and Paykel (1974) study supports this, exits being reported twice as often by depressed subjects as compared to schizophrenic subjects. This suggests that women may be more vulnerable to depression because the goals they have valued most prominently are those most susceptible to disruption as a result of social exits. In line with this, it may be that women are more susceptible to learned helplessness. Outcomes in personal relationships, such as social exits, may in fact be less response contingent than outcomes involved in more highly regulated and structured areas of endeavor. The above arguments also suggest that women, as a group are less diversified in terms of the range of goals they have traditionally pursued. Brown (1979) noted that employment seemed to play a protective role for women. Employment, in addition to providing additional opportunities for positive

reinforcement, implies greater goal diversification, either as the motivation to or the result of work.

Testing the Model

The following study was designed as an initial test of one aspect of the model. The model predicts that life stressors will be correlated with depression only when the stressors can be viewed as disrupting progress towards a desired future state. If this is a valid view, then refinement of present stress measures in such a way as to take into consideration the importance of the goal area related to each stressor, should result in a higher correlation between the goal based stress index and depression, than between the unrefined stress index and depression. The present research tests this hypothesis. (See Figure 2).

Method

Subjects. All subjects were undergraduate students at Saint Mary's University, drawn primarily from introductory English and Psychology classes. Three hundred and fifty students were surveyed in phase one of the study. The final sample, in phase three, consisted of 76 subjects, 48 female and 28 male, drawn from the 136 subjects that had completed both prior phases of the study. The estimated mean age of the sample was approximately 20 years and there was little variability in the ages of subjects in the final sample.

Figure 2

Model

-
1. expectation for the uncontrollability of goal related important future outcomes
and/or
 2. life stressors that threaten high priority future goal attainment
and/or
 3. environmental shifts that disrupt or block responses involved in high priority future goal attainment
and/or
 4. chronic low self-esteem related to skills viewed as necessary to high priority future goal attainment
- Negative view of the probability of future high priority goal attainment

Any of the above variables, all of which have been correlated with depression can lead alone or in conjunction to a negative view of the probability of future goal attainment. It is such a negative future view that is postulated as the critical factor in the etiology of depression.

Measures

Predictor Variables

1. Goal priority form (see Appendix B). This consisted of 28 paired comparisons made among the following eight goal areas:

Personal Relationship, dating and marriage, (Area A).

Career Satisfaction, (Area B).

Material Possession, (Area C).

Learning and Education, (Area D).

Leisure Satisfaction, (Area E).

Status and Respect, not career related, (Area F).

Personal Relationships, family and friends, (Area G).

Spiritual Growth and Religion, (Area H).

Directions for completion of the form were provided on the first page of the form. In addition, subjects were given verbally the directions appearing in Part B of the form and also asked to try very hard to make a decision between each set of goal areas. Four versions of the form were used, identical except for different ordering of the items. Four different orders were randomly generated for this purpose. The end result of administration of this form was to obtain a ranking of goal priority areas for each subject, from most to least important.

2. Social Readjustment Rating Scale. Holmes and Rahe (1967), (see Appendix A). This form consists of 43 life events, believed

to involve significant changes in an individual's life pattern. Subjects were asked to check any events experienced in the past two and one half month period. This scale provides a stress score based on the summed values preassigned to each life event experienced by the subject. The measure does not consider a number of items relevant to a young adult population. For this reason a supplement of five additional items, relating to dating and schooling were added to the original version of the scale. The Social Readjustment Rating Scale does not differentiate between events having a negative versus positive impact on the individual.

3. Life Experiences Survey (LES). Sarason, Johnson, and Seigel (1978), (see Appendix C). Sarason et al. point out that the Holmes and Rahe scale was based on the assumption that life changes are stressful regardless of the desirability of the experienced event. On the LES the subject decides whether a given event was desirable or undesirable, responding on a one point scale from -3 through +3. The LES considers 34 of the same life events as the Holmes and Rahe scale but includes 23 additional items, including ten specifically for students, as well as providing space for three unique or personal subject responses. The subject is asked to indicate, whether the event was experienced in the past six month period or from six months

to one year prior to completion of the form. The LES provides an overall stress score for each individual based on the sum of all negative responses.

4. Weighted Social Readjustment Rating Scale (WSRRS). The WSRRS is a scale that was derived to use the data generated by both the Social Readjustment Rating Scale and the Goal Priority form. This weighted scale was developed by using five independent raters to assign each of the Social Readjustment Rating Scale items to the goal priority area each was viewed as best representing (see Appendix D). It then becomes possible to calculate an overall weighted stress score for each subject by multiplying the stress score obtained in each goal area by the rank value the subject assigned that area and then summing the total for all eight areas. For example, all events falling in a goal area a subject ranked as most important would then have their score value multiplied by eight, while events falling in the goal area designated as least important would be multiplied by one.

5. Weighted Life Event Schedule (WLES). This scale was developed in the same manner as the WSRRS and also provides an overall stress score for each subject weighted by the subjects goal area priorities.

Dependent Measure

Beck Depression Inventory, Beck (1961) (see Appendix E). This inventory consists of 21 sets of statements. In each set one statement is neutral, while the other choices are those shown to be associated with the presence of depressive affect. The subject is asked to place an X beside the statement that best describes his/her present feelings, for each set. Within each set the statements are graded by the associated severity of depressive affect, the final item in each set being viewed as the most indicative of severe depression. An overall score is computed and the higher the score the more depressive symptomatology is considered to be present. Cut-off scores are provided, a score of less than ten, indicating no depression, a score between ten and 16 indicating mild depression, a score from 17 to 21 moderate depression, and scores of 22 or greater indicating severe depression. These cut-off scores are those consistent with use for outpatient samples, while higher cut-off scores are usually employed for inpatient samples.

Procedure

Step One:

The goal priority form was administered, in November, in large group settings varying from 25 to approximately 80 students. Professors in the Psychology, English and Philosophy

Departments allowed 15 minutes of class time for this purpose. Students were first instructed that participation was totally voluntary. They were asked to identify the form with either name or student number and they were assured all responses would be confidential. In addition, students in introductory psychology classes were informed that should they participate in all phases of the study, they would receive experimental credit.

Prior to distributing the forms student were told:

This is a goal priority form. It is made up of eight different areas which you may have important goals. On the first page you will see the eight different areas and an example of what a goal in each area might be. These are only examples and many other goals are possible in each area. On the second page you will be asked to make choices, to decide which goal areas are the most important to you. Try hard to make a decision. Before beginning, take time to think about what life goals honestly matter the most to you.

The forms were then distributed and students were instructed to read the form carefully and then begin.

Step Two:

Two and one half months later, in February, the same groups of students were asked to complete the Social Readjustment Rating Scale. The conditions of administration were similar. Students

were told:

This is a list of life events. Some of the events will not be relevant to you. Read the entire list and check any event that you have experienced since you saw me last in November. If you would be willing to participate in the final part of the study, please indicate this in the place provided at the end of the form.

The forms were then distributed and the students were asked to read the instructions carefully and then begin.

Step Three:

From among those students indicating willingness to participate in the final part of the study, it was possible to match 136 forms. Students had been asked to use either name or student number to identify forms. Students using name on one occasion and number on the other were not included, due to the time and administrative problems involved in attempting to match the forms. From this final list of 136 subjects, students were called at random and the first 76 successfully contacted comprised the final sample. The cut-off of 76 was arbitrary, dictated primarily by time constraints.

Step Four:

The 76 students in the final sample were all contacted within a two-week period and then completed the LES, BDI and rank

ordered the eight goal areas in terms of importance.

These forms were administered in small group settings. Time periods were arranged and subjects came at any point during these pre-arranged times. A large room, with tables and chairs well spread out, was used so that subjects could come and go without disrupting each other. The number in attendance at any given time varied from one to eight. Subjects were met at the door and individually given the following directions.

This is another list of life events. Read the directions carefully and check any event that you have experienced in the past year, indicating the time period, (showing) six months to present here and six months to a year past here. If it had a pleasant impact (showing), rate it here from +1 to +3. If it was negative, do the same here. If it had neither a positive or negative impact circle this zero.

On this form (BDI) read each set of statements and put an X by the one you most feel like right now. Check one statement in every set.

This is the first page of the goal form you already completed. This time just rank order the eight goal areas. For example, if this one (pointing to Area C) is most important you would give it a one here and so on until you have them all ranked, the least important getting an eight.

Subjects then chose a seat and completed the forms. On completion each subject read and returned a debriefing form, which briefly specified the nature of the research, requested subjects to refrain from discussing the study until it was completely finished and informed the subject that additional questions or concerns could be addressed to myself or my advisors..

In addition, all subjects scoring 18 or higher on the BDI were immediately contacted by phone and offered a list of different sources of professional help as well as my help in making the initial contacts should they desire such help.

Results

First Goal Area Rankings:

The results of the first rankings, made by the 76 subjects indicate that Personal Relationships (family and friends), goal Area G was the goal area most highly valued, on the average, by both male and female subjects at the time of the first administration of the goal priority form, X rank = 6.39. The area, on the average, of least importance for all subjects was Material Possession, area C, X rank = 2.30.

In general, female subjects were more definite in their choices. The range of the female mean rank scores equals 4.68, as opposed to a range between means of 3.06 for male subjects. The

mean-ranks, assigned by both male and female groups, for each area are not widely divergent. The largest mean rank difference is on Area G Personal Relationships, family and friends, at 0.98. While the others vary slightly between male and female groups, only Area H, Spiritual Growth and Religion varies by more than one position being ranked fifth by females and seventh by male subjects. Female subjects, on average, ranked Personal Relationships, dating and marriage, area A more highly than did male subjects with mean ranks of 6.14 and 5.59 respectively. (See Tables 1-3).

Second Goal Area Rankings:

The results of the second goal rankings, completed 2.5 months later, indicate that Personal Relationships, dating and marriage, Area A was the goal area most highly valued on the average, by both female and male subjects, at the time of the second ranking, mean rank equals 6.2. (See Tables 4-6). Male and females differed on the areas obtaining the lowest average rank. For female subjects this was Area C, Material Possessions, with a mean rank value of 2.65. For the male group, Status and Respect, Area F received the lowest mean rank value at 2.79.

The most notable difference between first and second goal rankings was the change in the position of Area G, Personal Relationships, family and friends, dropping overall from the

first position, mean rank 6.39, to the third position with a mean rank of 5.44. For the male group Area G, Personal Relationships, family and friends, dropped from the first position with a mean rank of 5.77, to the fourth position with a mean rank equal to 4.83, while Area A, Personal Relationships, dating and marriage, went from third position, mean rank 5.59, to first position with a mean rank of 6.23. The number of subjects completing the second ranking was 68.

Changes in the rankings of each individual subject were also measured. Changes of position of 1.5 or less were ignored as most of these changes can be explained by the difference in ranking methods, the first allowing ties and the second method discouraging them. All differences in position greater than two were summed for each subject to obtain an overall measure of change. For example, an area ranked seven on the first ranking and four on the second, would have a difference of three. All such differences were summed for each subject.

Forty-nine of the 68 subjects did not have any single change score equal to or greater than four. The change scores were correlated with the BDI scores and WLES (second goal order) scores. Neither correlation reached significance.

Social Readjustment Rating Scale

Scores on this measure ranged from 12-306 with a mean of

122.3, (S.D.=66.8). The mean for the female group was 116.1, (S.D.=6.75). The male group had a mean of 132.8, (S.D.=65.5). (See Figures 3-5). This difference was not significant at the $p=.05$ level. Normative data for a student population was not found. However, Holmes and Masucda (1974) report no significant sex differences in the average number of life changes and note also that persons between 20-30 years of age report 50% more life changes/person, than do subjects in the 45-60 age range.

Life Experiences Schedule

Scores on this measure ranged from zero - 45, with a mean of 9.09, (S.D.=8.08). The female group had a mean LES score of 7.76, (S.D.=7.02). The male group had a mean score of 10.71, (S.D.=9.18). This difference was not significant at the $p=.05$ level. (See Figures 6-8). Sarason et al. (1978) present normative data indicating no significant sex difference in a student sample of 345 subjects, 174 males and 171 females. The male mean negative change score for this group was 6.22, (S.D.=6.28), and the female mean was 7.04, (S.D.=7.90).

The most commonly occurring negative stressor was change in sleep patterns with a frequency of 28. This was followed closely by failing an important exam with a frequency of 27. Other stressors that occurred with a frequency greater than 15 included, serious illness of a family member, 24; breakup with

boy or girlfriend, 21, financial change, 20, change in closeness of family, 17, sexual difficulties, 16, and change in eating patterns at 16. The most frequently occurring positive responses were start of a new school experience and outstanding personal achievement with frequencies of 40 and 29 respectively. A complete breakdown of response patterns on the LES may be found in Appendix F.

Weighted Social Readjustment Rating Scale

The means for the WSRRS scores are shown in table 8. The male group on the average had higher weighted stress scores but this difference failed to reach significance at the $p=.05$ level for both goal orders. For the second goal ranking only the data for the WSRRS with supplementary items was considered. The results of the regression analysis suggested the scales which included these items had more predictive power than the Social Readjustment Scale in its original form.

Weighted Life Event Schedule

The means for the WLES scores are shown in table 9. A "t" test was done to assess the difference between the male and female groups. For the first goal ranking the difference was not significant at the $p=.05$ level. For the second goal ranking $t=2.31$, $p<.03$.

Beck Depression Inventory Scores

Scores on this measure ranged from zero - 33. The male groups had a mean score of 9.25, (S.D.=6.43). The female group had a mean score of 7.65, (S.D.=7.38). This difference was not significant at the $p=.05$ level. The overall mean was 8.32, (S.D.=7.0). (See Figures 9-11). 38% or 29 of the 76 subjects had a BDI score of 10 or greater.

Paired Regressions

All predictor variables were regressed against the BDI Scores. Results of these paired regressions may be found in table 10. The WLES accounted for the largest portion of the variance in the BDI scores both using the first and second goal rankings. The Social Readjustment Scale in its original form was the least predictive variable. In all cases weighting the measures by goal area importance increased the variance accounted for in the BDI scores. The largest difference was between the LES scores and the WLES scores, based on the second goal rankings (30.1-38.8%). The smallest difference was between the Social Readjustment Rating Scale plus supplementary items and the WSRS with supplementary items, based on the second goal ranking (20.2-20.4%).

Multiple regressions were done to determine whether the additional variance accounted for by the weighted measures added

significantly to the variance accounted for by the unweighted measures. The 2.8% difference between the LES and WLES based on the first goal order fell just short of statistical significance, $F = 3.1$. The 8.7% difference between the LES and WLES based on the second goal order was significant at the $P = .01$ level, $F = 11.74$. The 4.6% difference between the Social Readjustment Rating Scale with supplementary items and the weighted Social Readjustment Scale with supplementary items was significant at the $P = .05$ level, $F = 4.54$.

It should be noted that in administration of the Social Readjustment Rating Scale, subjects were instructed to report only events occurring in the prior two and one half month period, while the LES measured stressors over a full one year period.

Discussion

Goal Priorities

The obtained results averaged over the first and second goal rankings suggest that undergraduate students at Saint Mary's University value Personal Relationships in the area of dating and marriage, Area B most highly followed by the area of Personal Relationships, family and friends, Area G. Female students, again taking the average over both rankings, place equal value on both areas of Personal Relationships while male subjects place more emphasis on Area A, Personal Relationships, dating and

marriage, valuing Area G, Personal Relationships, family and friends, and Area D, Learning and Education, jointly in second position. The male subjects, on average ranked Area G, Personal Relationships, family and friends, first on the initial ranking and fourth on the subsequent ranking. It is suggested that the result of the second ranking, rather than the average may be the more valid ordering, perhaps reflecting a shift in emphasis from a family to an independent life style, for the male group. The results suggest that Status and Respect, Area F, and Material Possessions, Area C are the least valued goal areas for both males and females. This may be an adaptive response since both are not readily available to this age group.

Differences between male and female subjects were not great. It is suggested this homogeneity in male-female goal priority areas may not be typical of the young adult population in general. It may be that young women and young men both choosing to obtain a university education are atypically similar in terms of desired future goals. It may also be that the joint emphasis on dating and marriage, for example, reflects the young adult age of both groups. The changes in the rankings at time one and at time two suggests for this group goal priorities are still in a state of flux. This is not surprising as this young adult age is in many ways a transition period in which many of the subjects

can be viewed as making their first independent adult decisions. Intuitively, less variability would be expected in an adult population that has generally already committed itself to a given life course. It may be at this point, when most males are in the work force while many women have undertaken family obligations instead, that there is a greater specialization of life goals and hence less homogeneity.

With respect to the changes in ranking between time one and two, only 19 subjects had major changes. On both rankings the top four and bottom four areas are consistent, the bottom four areas also maintaining the same ordering. This suggests that while goal priorities are in a state of flux, for most subjects the changes involve a juggling among the four top areas, A, G, B and D, perhaps reflecting the process of sorting out the desired future course for an independent adult life style.

Presently, much regarding young adult goal setting remains speculation, for example, are male and female students, indeed, similar in choice of goals and is this age group typified by a shifting and sorting of goal priorities. It is suggested that this area needs further investigation. It should also be noted further research is necessary to determine if the present method of ranking goal areas is reliable.

Life Stressors and Beck Depression Inventory Scores

In the present sample male subjects experienced on the average more stressful events and also on average had higher BDI scores. While differences did not reach statistical significance, this trend was noteworthy. This result was unexpected and it is presently unclear whether such a result is typical of a young adult population or an artifact of the present sample. It may be that young adult men are still under a greater pressure, than their female counterparts, to achieve financial independence and hence are under more pressure during this transition period. It should be noted however that Sarason et al. (1978) show females as experiencing more stressors. While this sex difference was not significant, it is in the opposite direction from the present trend. This could possibly reflect sociological differences. Students in the present sample also had a higher overall mean stress score on the LES than the subjects in the normative sample, 9.09 and 6.67 respectively.

The most frequently occurring stressors were generally those expected for a young adult population. For example, a change in the closeness of family would be expected as a result of a transition to greater personal independence and sexual difficulties and boyfriend/girlfriend problems would be expected in this age group, that may be viewed as approaching the age of transition from a single life style to a married life style. The

large number of students indicating serious illness to a family member (24) was unexpected but may reflect increasing age in the grandparents and parents of the subjects. The high frequency of exam failure again is not unexpected in a student population.

Beck Depression Inventory

Thirty-eight percent or 29 of the 76 subjects had a BDI score equal to or greater than ten. Beck, Ward, Mendelson, Mock and Erbaugh (1961) report that 23% of the respondents in their college sample were in this mildly depressed range. Bumberry, Oliver and McClure (1978) suggest the rate of depression may be as high as 50% in college students as compared to the 15% rate estimated for the general population. Bumberry et al. report that in a sample of 56 college students, psychiatric ratings of depth of depression were not significantly associated with either sex or grade level. These reports suggest that the BDI scores for the students at Saint Mary's University are consistent with the norms expected for a student sample.

Weighted Stress Measures

Again, in the present sample, the overall stress means were higher for male subjects. This difference was statistically significant only for the WLES scores based on the second goal ordering. This suggests male subjects experienced more stressors in areas of importance to them, than did female subjects. This

finding was unexpected and it is presently unclear if this is typical of the student population in general or an artifact of the present sample. At present the absence of a literature on goal priorities, as they relate to life stressors, precludes any conclusive statements and underlines the need for further investigation of the goal-stressor relationship.

Paired Regressions

While the results suggest the LES is for a student population, the superior depression predictor of the two unweighted measures, the design used in this study precludes such a direct comparison. The LES considers events occurring during the past year period. The Social Readjustment Scale, as adapted for use in this study, included only those events occurring after completion of the first goal area rankings. Dohrenwend and Dohrenwend (1979) suggest the use of a one year cut-off is largely dictated by practicalities. It is probable that events occurring prior to the goal rankings and thus excluded on the Social Readjustment Scale Measure, could be related to the BDI scores. This approach was taken in order to obtain goal rankings prior to the occurrence of the stressors in an attempt to introduce a prospective element into the study. Giving the ranking measure and stress measure at two different points in time avoided the possibility that the rankings were influenced by

the simultaneous recall of the events. However, as noted previously goal priorities appear to be somewhat fluid in this sample. It might be that the intervening stressors themselves led to some re-ordering of life priorities. While the LES and the second goal rankings were completed simultaneously, it is likely the changes also reflect real differences between the two points in time and not merely the different methods of ranking and the effects of simultaneous administration of LES and goal form. While additional research is necessary to clarify these points, for present purposes it is assumed both goal orderings are realistic estimates of student priorities, at the two points in time. The main point here, however, is that design considerations do not allow direct comparison of the two unweighted measures. Such a comparison is not necessary to test the predictions generated by the present model.

The Social Readjustment Scale with supplementary items and the WSRRS with supplementary items weighted by the second goal ordering account for almost the same percentage of variance in the BDI scores as opposed to a 4.6% difference obtained in favour of the weighted measure based on the first goal ordering. This is interesting in view of the 8.7% difference between the LES and the WLES based on the second goal ordering. The WLES based on this second ranking was the strongest single factor related to

the depression measure, while administering the LES at the same time as the second goal rankings may have, as noted, influenced the second rankings, the overall superiority of the WLES suggests the differences in results may be best explained by the different levels of compatibility of the two unweighted measures with the goal model. For example, the inclusion of score values for positively viewed events on the Social Readjustment Scale may have diluted the effect of the goal weightings. As previously noted, Sarason et al. (1978) found that only negative events were significantly related to elevated depressed scores. It is counter-intuitive to hold that events viewed as positive, could lead to a negative view of the probability of obtaining important future outcomes. Inclusion of such events would obviously confound the final WSRRS measure. Still the WSRRS, particularly based on goal order one, does account for more of the variance than the unweighted measure. It is suggested this reflects the larger proportion of events that can generally be perceived as negative, such as death of family member or friend, which tend to outweigh in terms of assigned numerical value, those events more likely to be perceived positively. It is suggested that had subjects been instructed to check only negatively experienced items the WSRRS would have been more predictive.

There are other factors that may have diluted the effect of

the goal weighting for both stress measures. By refining existing measures, some goal areas were over-represented and others were under-represented. For example, on the Social Readjustment Scale, 27% of the items were placed in Area A, Personal Relationships, dating and marriage as opposed to only 4% of the events representing spiritual concerns (see Appendix D). Also while interrater agreement was high, a logical argument can be made for placing many of the events in a different goal category. For example, change in residence might relate to goals in the material possessions, status and respect or family areas, depending on the individual situation. It is also an example of an event that may have negative or positive impact. It is suggested that the predictive value of the weighted measures may have increased had there been provision made for each subject to indicate the area perceived as being most highly related to each event.

In order to differentially test the measures in the most objective and clear cut manner, a decision was made to depart as little as possible from the standard forms. No provision was made for obtaining an estimate of which events were actually perceived by the subject as decreasing the probability of future goal attainment. Ideally the weighted measures should also include provision for identifying those subjects who see viable

alternatives to a given goal. It is suggested that those subjects who are able to readily substitute one goal for another would be less likely to suffer from depressive affect. A test of the goal model itself would demand some provision for consideration of these variables.

Implications for Other Depression Models

It is suggested the model outlined here may be used to refine research in other areas of investigation. For example, the model states that future goal expectations also mediate the helplessness effect. The model predicts that only learned helplessness that involves a sense of futility about the utility of action associated with an important life goal, will lead to depression onset. It should be possible to test this hypothesis by inducing the learning helplessness effect in areas unrelated to high goal priorities in one group of subjects, while inducing the effect in areas related to high priorities in another group and then taking a depression measure. The prediction is that depression in the second, high priority goal group, would be significantly greater than depression scores in the group experiencing learned helplessness in an area unrelated to valued future goals.

It should also be possible to refine behavioral theories of depression. The prediction is that shifts in the environment

that do not decrease the perceived probability of future high priority goal attainment will not be associated with elevated depression scores, while shifts that do result in a lowered perceived probability will be correlated with elevated scores. Also individuals who are living in aversive environments do not all develop depressive symptomatology. It is suggested that the perceived probability of important future goal attainment is the mediating factor here also. The prediction is that those individuals who see the present contingencies as extending into the future will generally have elevated depression scores, while those individuals that do not have the negative future view will have significantly lower depression scores.

It should also be possible to test the role of self-esteem as outlined in the model using an adaptation of the Ludwig (1975) study, one group of subjects could be given feedback designed to lower self-esteem in an area that has few ramifications for important future goal attainment, while a second group could be given negative feedback directly related to the skills necessary to important goal attainment. Again the prediction is that the group experiencing lowered self-esteem related to skills required for goal attainment will obtain significantly higher depression scores.

Summary

In general the results support the premise that a consideration of goal priority areas in terms of life events can increase the predictive power of existing stress measures, in particular the LES, which theoretically is more compatible with the suggested goal model. The study suggests possibilities for future refinements to current stress measures and highlights the importance of examining stressors, differentially, in terms of their impact on future goals. It suggests the need for additional research on life priorities and attendant long term goals and indicates the relevance of continued research on the model of depression presented in this paper.

In particular, it is suggested that much basic research is needed to determine how best to measure future goal priorities, to determine how flexible life priorities are at different ages, to determine if goals change in a consistent pattern during different life stages and to establish whether there are significant sex differences in goal setting behavior and whether these differences are consistent for all age groups. It may also be of potentially great clinical value to investigate whether the ability to readily supplant goals, to substitute alternative goals or to perceive alternative routes to a goal do, as suggested by the present model, provide some immunity to the development of clinical depression.

References

- Abrahamson, L.Y., Seligman, M.E.P., & Teasdale, J.D. (1978).
Learned helplessness in humans: Critique and reformulation.
Journal of Abnormal Psychology, 87, 49-74.
- Akiskal, H.S., & McKinney, W.J., Jr. (1973). Depressive
disorders: Towards a unified hypothesis. Science, 182, 20-
29.
- Alloy, L.B., & Abramson, L.Y. (1979). Judgement of
contingencies in depressed and non-depressed students:
Sadder but wiser. Journal of Experimental Psychology General,
108, 441-485.
- Alloy, L.B., & Abramson, L.Y. (1981). Depression-non-
depression and cognitive illusion: Reply to Schwartz.
Journal of Experimental Psychology General, 110, 436-447.
- Beck, A.T., Ward, C.H., Mendelson, M., Mock, J., & Erbaugh, J.
(1961). An inventory for measuring depression. Archives of
General Psychology, 4, 561.
- Beck, A.T. (1967). Depression: Clinical experimental and
theoretical aspects. New York: Hoeber.
- Becker, J. (Ed.). (1974). Depression: Theory and research.
Washington, D.C.: Winston.
- Becker, J. (1979). Vulnerable self-esteem as a predisposing
factor in depressive disorders. In R.A. Depue (Ed.), The

- psychobiology of the depressive disorders: Implications for the effects of stress (pp. 317-332). New York, N.Y.: Academic Press.
- Benson, J.S. & Kennelly, K.J. (1976). Learned helplessness: The result of uncontrollable reinforcement or uncontrollable aversive stimuli. Journal of Personality and Social Psychology, 34, 138-145.
- Blaney, P. (1977). Contemporary theories of depression: Critique and comparison. Journal of Abnormal Psychology, 86, 203-223.
- Brown, G.W. (1979). The social etiology of depression: London. In R.A. Depue (Ed.), The psychobiology of the depressive disorders: Implications for the effects of stress pp. 263-287. New York, N.Y.: Academic Press.
- Bumberry, Wm., Oliver, J.M., & McAure, J.N. (1978). Validation of the BDI on a university population-using psychiatric estimate as a criterion. Journal of Consulting and Clinical Psychology, 46, 150-155.
- Cole, C.S., & Coyne, J.C. (1977). Situational specificity of laboratory-induced learned helplessness. Journal of Abnormal Psychology, 86, 615-623.
- Cook, T.D., & Campbell, D.T. (1979). Quasi-experimentation. Boston: Houghton Mifflin.

- Depue, R.A. (Ed.). (1979). The psychobiology of the depressive disorders. Implications for the effects of stress. New York, N.Y.: Academic Press.
- Diener, C.I., & Dweck, C.S. (1978). An analysis of learned helplessness: Continuous changes in performance strategy and achievement cognitions following failure. Journal of Personality and Social Psychology, 36, 451-462.
- Dohrenwend, B.S., & Dohrenwend, B.P. (1979). The conceptualization and measurement of stressful life events: An overview of the issues. In R.A. Depue (Ed.), The psychobiology of the depressive disorders. Implications for the effects of stress (pp. 105-119). New York, N.Y.: Academic Press.
- Ferster, C.B. (1965). Classification of behavioral pathology. In L. Kraser & L.P. Ullman (Eds.), Research in behavior modification (pp.). New York: Holt, Rinehart & Winston.
- Hiroto, D.S. (1974). Locus of control and learned helplessness. Journal of Experimental Psychology, 102, 187-193.
- Holmes, T.H., & Masuda, M. (1974). Life change and illness susceptibility. In B.S. Dohrenwend & B.P. Dohrenwend (Eds.), Stressful life events: the nature and effects (pp. 45-73). New York: John Wiley and Sons.

- Holmes, T.H., & Rahe, R.H. (1967). The social readjustment rating scale. Journal of Psychosomatic Research, 11, 213-218.
- Jacobs, S.C., Prusoff, B., & Paythel, E.S. (1974). Recent life events in schizophrenia and depression. Psychological Medicine, 4, 444-453.
- Kuhl, J. (1981). Motivational and functional helplessness: The moderating effect of state vs. action orientation. Journal of Personality and Social Psychology, 40, 155-170.
- Kuiper, N.A. (1978). Depression and causal attributions for success and failure. Journal of Personality and Social Psychology, 36, 236-246.
- Lewinsohn, D.M. (1974). A behavioral approach to depression. In R.J. Friedman & M.M. Katz (Eds.), The psychology of depression; Contemporary theory and research (pp.157-179).
- Lewinsohn, D.M., & Tibet, J. (1972). Pleasant events, activity schedules and depressions. Journal of Abnormal Psychology, 79, 291-295.
- Lewinsohn, D.M., Youngren, M.A., & Grosscup, S.J. (1979). Reinforcement and depression. In R.A. Depue (Ed.), The psychobiology of the depressive disorders. Implications for the effects of stress (pp. 291-315). New York: Academic Press.

McReynolds, W.J. (1980). Learned helplessness as a schedule shift effect. Journal of Research in Personality, 14, 139-157.

Miller, W.R., Seligman, M.E.P. (1973). Depression and the perceptions of reinforcement. Journal of Abnormal Psychology, 82, 62-73.

Nussbaum, K., Wittig, B., Hanlon, T., & Kurland, A. (1983). Intravenous nialmide in the treatment of depressed female patients. Comprehensive Psychology, 4, 105-116.

Paykel, E.S. (1979). Recent life events in the development of the depressive disorders. In R.A. Depue (Ed.), The psychobiology of the depressive disorders. Implications for the effects of stress (pp. 245-261). New York: Academic Press.

Paykel, E.S.; Myers, D., Klerman, L., & Peper. (1969). Life events and depression. Archives of General Psychiatry, 21, 753-760.

Sarson, I.G., Johnson, J.H., & Siegel, J.M. (1978). Assessing the impact of life changes: Development of the life experiences survey. Journal of Consulting and Clinical Psychology, 46, 932-946.

Schwab, J., Bialow, M., Brown, J., & Holzer, C. (1967). Diagnosing depression in medical inpatients. Annals of

Internal Medicine, 67, 695-707.

- Seligman, M.E.P. (1974). Depression and learned helplessness. In R.J. Friedman & M.M. Katz (Eds.), The psychology of depression: Contemporary Theory and Research (pp. 83-114). Washington, DC: V.H. Winston.
- Sherman, J. (1971). On the Psychology of Women: A Survey of Empirical Studies. Illinois: C. Thomas.
- Stotland, E. (1964). The Psychology of Hope. San Francisco: Jossey-Bass.
- Velten, E. (1968). A laboratory task for induction of mood states. Behavior, Research and Therapy, 6, 473-482.
- Weissman, M., & Klerman, G. (1977). Sex differences and the epidemiology of depression. Archives of General Psychiatry, 34, 98-111.
- Wortzman, C.B., & Dentzer, L. (1978). Is an attributional analyses of the learned helplessness phenomenon viable? A critique of the Abramson-Seligman-Teasdale reformulation. Journal of Abnormal Psychology, 87, 75-90.

Appendix A

Social Readjustment Rating Scale

Holmes and Rahe (1976) developed this scale, included above, by using a "sample of convenience" composed of 394 subjects, 179 male and 215 female to assign a numerical value to each of the 43 life events comprising the scale. Using an arbitrary value of 500 for the event of marriage, each subject was asked to assign a value to all other events in relation to this value. The final values were obtained by dividing the mean value for each event by ten. Holmes and Rahe report a coefficient of concordance for the 394 individuals of .477 significant at $p < 0.0005$.

The additional items, chosen for their relevance to a student population, were assigned values by asking five students to assign a value to each item in relation to the pre-established scale values. Item 49 was ignored as no subjects in the final sample checked this item. The mean values and SD's are reported below. The mean value was used to score the supplementary items.

item #	X	SD
44	39.2	10.08
45	30.4	13.7
46	29.8	13.5
47	27.6	17.05*
48	23.2	2.95

* This reflects one extreme value of 50 assigned 47 by a female student.

Below is a list of life events.

Put a check mark in front of any event that has happened to you, within the past two and a half month period.

Examples:

1. car accident
2. trip to Japan

Events.

1. Marriage
2. Troubles with the boss.
3. Detention in jail or other institution
4. Death of spouse
5. Major change in sleeping habits (a lot more or a lot less sleep, or change in part of day when asleep).
6. Death of close family member
7. Major change in eating habits (a lot more or a lot less food intake, or very different meal hours or surroundings)
8. Foreclosure on a mortgage or loan
9. Revision of personal habits (dress, manners, associations, etc.)
10. Death of a close friend
11. Minor violations of the law (e.g. traffic tickets, jay walking, disturbing the peace, etc.)
12. Outstanding personal achievement
13. Pregnancy
14. Major change in the health or behavior of a family member
15. Sexual difficulties
16. In-law troubles
17. Major change in number of family get-togethers (e.g. a lot more or a lot less than usual)
18. Major change in financial state (e.g. a lot worse off or a lot better off than usual)

Events

19. _____ Gaining a new family member (through birth; adoption, oldster moving in etc.)
20. _____ Change in residence
21. _____ Son or daughter leaving home (e.g. marriage, attending college, etc.)
22. _____ Marital separation from mate
23. _____ Major change in church activities (e.g. a lot more or a lot less than usual)
24. _____ Marital reconciliation with mate
25. _____ Being fired from work
26. _____ Divorce
27. _____ Changing to a different line of work
28. _____ Major changes in the number of arguments with spouse (e.g. either a lot more or a lot less than usual regarding childrearing, personal habits, etc.)
29. _____ Major change in responsibilities at work (e.g. promotion, demotion, lateral transfer)
30. _____ Wife beginning or ceasing work outside the home
31. _____ Major change in working hours or conditions
32. _____ Major change in usual type and/or amount of recreation
33. _____ Taking on a mortgage greater than \$10,000 (e.g. purchasing a home, business, etc.)
34. _____ Taking on a mortgage or loan less than \$10,000 (e.g. purchasing a car, TV, freezer, etc.)
35. _____ Major personal injury or illness
36. _____ Major business readjustment (e.g. merger, reorganization, bankruptcy, etc.)
37. _____ Major change in social activities (e.g. clubs, dancing, movies, visiting, etc.)
38. _____ Major changes in living conditions (e.g. building a new home, remodeling, deterioration of home or neighborhood)

Events

- 39. Retirement from work
- 40. Vacation
- 41. Christmas
- 42. Changing to a new school
- 43. Beginning or ceasing formal schooling
- 44. Break up with boy/girl friend
- 45. Failed an exam
- 46. Reconciliation with boy/girl friend
- 47. Achieved academic standing below your expectations
- 48. Major change in arguments (increase or decrease) with boy/girl friend
- 49. Car accident

Would you be willing to participate in the last stage of this study? It will involve about 1/2 hour, time arranged at your convenience. Introductory Psychology students will receive experimental credit. If you are willing to help out please sign below:

Name: _____

I can be reached at: _____

D

Appendix B

Goal Priority Form

The eight areas of the Goal Priority Form, included above, were chosen on the assumption they could provide a categorical framework for the organization of most human goals. The complexity of human interaction suggests the pursuit of any given goal will generally have ramifications in more than one area of an individual's life but the position taken in developing the goal priority form suggests that regardless of the dynamics involved in goal pursuit, most goals can still be viewed as belonging primarily to one or another specific area of personal endeavor. Some support for this position was obtained in the process of choosing the examples for inclusion in Part A of the form. Three examples of goals in each area were given to 22 students. The students were asked to decide which goal area each example best fit. The examples used on the form were assigned to the goals with a consensus of 90% or greater.

Four alternate orders for the comparisons were generated randomly by computer to control for order effects and to ensure that subjects seated side by side could not simply duplicate each other's responses.

Students ranked the areas from one, most important, to eight for least important. In using the rank orderings to weigh the

stress measures this was reversed. The most important area received a rank of eight, the least important a rank of one.

GOAL PRIORITY FORM

This is a questionnaire designed to determine which personal goals are most important to you.

PART A. Think about the things that are really of most importance to you. Be honest with yourself. What do you really want and value. Look at the general GOAL AREAS listed below. An example of one of the possible goals a person might hold in each area is also listed. Of course, many other examples are possible. Read through the list and think about the areas that contain your highest priority goals.

GOAL AREAS

Personal Relationships (Dating & Marriage)

-to meet someone special, who will love and accept me just as I am

Career Satisfaction

-to obtain a well-paid professional position

Material Possessions

-to buy my own home

Learning and Education

-to maintain at least a B average

Leisure Satisfaction

-to plan my life so that I have free time to engage in pastimes I enjoy

Status & Respect (not in Career)

-to be considered a leader at school or in the community

Personal Relationships (Family & Friends)

-to be well liked and popular with people

Spiritual Growth & Religion

-to feel I have lived up to my own beliefs

PART B. Two GOAL AREAS are listed on each line on the next page. Compare the two GOAL AREAS on each line and decide which is more important to you. Put a check mark in the box beside the one that is more important to you. Try to make a decision between the two areas. If you decide that both are equally important, you may put a check mark in both boxes. There are 28 comparisons altogether.

EXAMPLE:

Candy [] [] Ice Cream

I. PRIORITY FORM A.

NAME:

or STUDENT NUMBER:

-
- Learning and Education [] [] Leisure Satisfaction
 - Career Satisfaction [] [] Leisure Satisfaction
 - Leisure Satisfaction [] [] Relationships (Family & Friends)
 - Status & Respect (not in Career) [] [] Relationships (Family & Friends)
 - Leisure Satisfaction [] [] Status & Respect (not in Career)
 - Relationships (Family & Friends) [] [] Spiritual Growth & Religion
 - Spiritual Growth & Religion [] [] Career Satisfaction
 - Spiritual Growth & Religion [] [] Material Possessions
 - Material Possessions [] [] Learning and Education
 - Learning and Education [] [] Spiritual Growth & Religion
 - Relationships (Family & Friends) [] [] Relationships (Dating & Marriage)
 - Relationships (Dating & Marriage) [] [] Material Possessions
 - Relationships (Dating & Marriage) [] [] Leisure Satisfaction
 - Career Satisfaction [] [] Material Possessions
 - Relationships (Dating & Marriage) [] [] Career Satisfaction
 - Material Possessions [] [] Leisure Satisfaction
 - Relationships (Family & Friends) [] [] Career Satisfaction
 - Spiritual Growth & Religion [] [] Relationships (Dating & Marriage)
 - Status & Respect (not in Career) [] [] Spiritual Growth & Religion
 - Career Satisfaction [] [] Learning and Education
 - Status & Respect (not in Career) [] [] Relationships (Dating & Marriage)
 - Career Satisfaction [] [] Status & Respect (not in Career)
 - Leisure Satisfaction [] [] Spiritual Growth & Religion
 - Relationships (Dating & Marriage) [] [] Learning and Education
 - Learning and Education [] [] Relationships (Family & Friends)
 - Material Possessions [] [] Status & Respect (not in Career)
 - Material Possessions [] [] Relationships (Family & Friends)
 - Learning and Education [] [] Status & Respect (not in Career)

AL PRIORITY FORM B.

NAME:

or STUDENT NUMBER:

- Relationships (Dating & Marriage) [] [] Material Possessions
- Spiritual Growth & Religion [] [] Relationships (Dating & Marriage)
- Relationships (Family & Friends) [] [] Career Satisfaction
- Career Satisfaction [] [] Learning and Education
- Leisure Satisfaction [] [] Spiritual Growth & Religion
- Status & Respect (not in Career) [] [] Relationships (Dating & Marriage)
- Material Possessions [] [] Relationships (Family & Friends)
- Relationships (Dating & Marriage) [] [] Learning and Education
- Career Satisfaction [] [] Leisure Satisfaction
- Status & Respect (not in Career) [] [] Relationships (Family & Friends)
- Leisure Satisfaction [] [] Relationships (Family & Friends)
- Status & Respect (not in Career) [] [] Spiritual Growth & Religion
- Relationships (Family & Friends) [] [] Relationships (Dating & Marriage)
- Career Satisfaction [] [] Status & Respect (not in Career)
- Relationships (Family & Friends) [] [] Spiritual Growth & Religion
- Leisure Satisfaction [] [] Status & Respect (not in Career)
- Spiritual Growth & Religion [] [] Career Satisfaction
- Material Possessions [] [] Learning and Education
- Relationships (Dating & Marriage) [] [] Career Satisfaction
- Learning and Education [] [] Leisure Satisfaction
- Material Possessions [] [] Leisure Satisfaction
- Learning and Education [] [] Relationships (Family & Friends)
- Learning and Education [] [] Spiritual Growth & Religion
- Material Possessions [] [] Status & Respect (not in Career)
- Relationships (Dating & Marriage) [] [] Leisure Satisfaction
- Learning and Education [] [] Status & Respect (not in Career)
- Career Satisfaction [] [] Material Possessions
- Spiritual Growth & Religion [] [] Material Possessions

- Learning and Education [] [] Career Satisfaction
- Leisure (Satisfactions [] [] Learning and Education
- Relationships (Family & Friends) [] [] Material Possessions
- Relationships (Dating & Marriage) [] [] Spiritual Growth & Religion
- Leisure Satisfactions [] [] Material Possessions
- Spiritual Growth & Religion [] [] Status & Respect (not in Career)
- Relationships (Dating & Marriage) [] [] Status & Respect (not in Career)
- Learning and Education [] [] Relationships (Dating & Marriage)
- Material Possessions [] [] Spiritual Growth & Religion
- Status & Respect (not in Career) [] [] Career Satisfaction
- Career Satisfaction [] [] Spiritual Growth & Religion
- Relationships (Family & Friends) [] [] Status & Respect (not in Career)
- Spiritual Growth & Religion [] [] Learning and Education
- Relationships (Dating & Marriage) [] [] Relationships (Family & Friends)
- Career Satisfaction [] [] Relationships (Family & Friends)
- Career Satisfaction [] [] Relationships (Dating & Marriage)
- Learning and Education [] [] Material Possessions
- Material Possessions [] [] Career Satisfaction
- Material Possessions [] [] Relationships (Dating & Marriage)
- Relationships (Family & Friends) [] [] Leisure Satisfactions
- Spiritual Growth & Religion [] [] Leisure Satisfactions
- Relationships (Family & Friends) [] [] Learning and Education
- Leisure Satisfactions [] [] Relationships (Dating & Marriage)
- Leisure Satisfactions [] [] Career Satisfaction
- Spiritual Growth & Religion [] [] Relationships (Family & Friends)
- Status & Respect (not in Career) [] [] Leisure Satisfactions
- Status & Respect (not in Career) [] [] Material Possessions
- Status & Respect (not in Career) [] [] Learning and Education

L PRIORITY FORM, D.

NAME: _____ or STUDENT NUMBER: _____

- Relationships (Dating & Marriage) [] [] Spiritual Growth & Religion
- Status & Respect (not in Career) [] [] Career Satisfaction
- Spiritual Growth & Religion [] [] Status & Respect (not in Career)
- Learning and Education [] [] Career Satisfaction
- Relationships (Family & Friends) [] [] Material Possessions
- Status & Respect (not in Career) [] [] Material Possessions
- Spiritual Growth & Religion [] [] Leisure Satisfaction
- Relationships (Family & Friends) [] [] Learning and Education
- Career Satisfaction [] [] Spiritual Growth & Religion
- Material Possessions [] [] Relationships (Dating & Marriage)
- Learning and Education [] [] Material Possessions
- Leisure Satisfaction [] [] Career Satisfaction
- Career Satisfaction [] [] Relationships (Dating & Marriage)
- Material Possessions [] [] Career Satisfaction
- Career Satisfaction [] [] Relationships (Family & Friends)
- Material Possessions [] [] Spiritual Growth & Religion
- Leisure Satisfaction [] [] Material Possessions
- Relationships (Dating & Marriage) [] [] Status & Respect (not in Career)
- Leisure Satisfaction [] [] Relationships (Dating & Marriage)
- Relationships (Dating & Marriage) [] [] Relationships (Family & Friends)
- Spiritual Growth & Religion [] [] Relationships (Family & Friends)
- Status & Respect (not in Career) [] [] Leisure Satisfaction
- Relationships (Family & Friends) [] [] Status & Respect (not in Career)
- Learning and Education [] [] Relationships (Dating & Marriage)
- Relationships (Family & Friends) [] [] Leisure Satisfaction
- Status & Respect (not in Career) [] [] Learning and Education
- [] [] Education

Appendix C

Life Experiences Survey

The rationale for the development of this scale, was discussed in the body of the text. Sarson et al. present normative data indicating no significant sex differences in a student sample of 345 subjects. The authors note life change scores tended to be low for this student sample. The male \bar{X} negative change score = 6.22 S.D. = 6.28 and the female \bar{X} negative change score = 7.04 S.D. = 7.90.

In two test-retest reliability studies over a five to six week period the authors report reliability coefficients for the negative change scores of $r = .56$ ($p < .001$) and $.88$ ($p < .001$). Thirty-four students comprised the first sample and 58 the second.

The Life Experiences Survey

Listed below are a number of events which sometimes bring about changes in the lives of those who experience them and which necessitate social readjustment. Please check those events which you have experienced in the recent past and indicate the time period during which you have experienced each event. Be sure that all check marks are directly across from the items they correspond to.

Also for each item checked below, please indicate the extent to which you viewed the event as having either a positive or negative impact on your life at the time the event occurred. That is, indicate the type and extent of impact that the event had. A rating of -3 would indicate an extremely negative impact. A rating of 0 suggests no impact either positive or negative. A rating of +3 would indicate an extremely positive impact.

Section 1

	0 to 6 mo	7 mo to 1 yr	extremely negative	moderately negative	somewhat negative	no impact	slightly positive	moderately positive	extremely positive
1. Marriage			-3	-2	-1	0	+1	+2	+3
2. Detention in jail or comparable institution			-3	-2	-1	0	+1	+2	+3
3. Death of spouse			-3	-2	-1	0	+1	+2	+3
4. Major change in sleeping habits (much more or much less sleep)			-3	-2	-1	0	+1	+2	+3
5. Death of a close family member									
a. mother			-3	-2	-1	0	+1	+2	+3
b. father			-3	-2	-1	0	+1	+2	+3
c. brother			-3	-2	-1	0	+1	+2	+3
d. sister			-3	-2	-1	0	+1	+2	+3
e. grandmother			-3	-2	-1	0	+1	+2	+3
f. grandfather			-3	-2	-1	0	+1	+2	+3
g. other (specify)			-3	-2	-1	0	+1	+2	+3
6. Major change in eating habits (much more or much less food intake)			-3	-2	-1	0	+1	+2	+3
7. Foreclosure on mortgage or loan			-3	-2	-1	0	+1	+2	+3

	0 to 6 mo	7 mo to 1 yr	extremely negative	moderately negative	somewhat negative	no impact	slightly positive	moderately positive	extremely positive
8. Death of close friend			-3	-2	-1	0	+1	+2	+3
9. Outstanding personal achievement			-3	-2	-1	0	+1	+2	+3
10. Minor law violations (traffic tickets, disturbing the peace, etc)			-3	-2	-1	0	+1	+2	+3
11. Male: wife/girlfriend's pregnancy			-3	-2	-1	0	+1	+2	+3
12. Female: pregnancy			-3	-2	-1	0	+1	+2	+3
13. Changed work situation (different work responsibility, major change in working conditions, working hours, etc.)			-3	+2	-1	0	+1	+2	+3
14. New job			-3	-2	-1	0	+1	+2	+3
15. Serious illness or injury of close family member:									
a. father			-3	-2	-1	0	+1	+2	+3
b. mother			-3	-2	-1	0	+1	+2	+3
c. sister			-3	-2	-1	0	+1	+2	+3
d. brother			-3	-2	-1	0	+1	+2	+3
e. grandfather			-3	-2	-1	0	+1	+2	+3
f. grandmother			-3	-2	-1	0	+1	+2	+3
g. spouse			-3	-2	-1	0	+1	+2	+3
h. other (specify)			-3	-2	-1	0	+1	+2	+3
16. Sexual difficulties			-3	-2	-1	0	+1	+2	+3
17. Trouble with employer (in danger of losing job, being suspended, demoted, etc.)			-3	-2	-1	0	+1	+2	+3
18. Trouble with in-laws			-3	-2	-1	0	+1	+2	+3
19. Major change in financial status (a lot better off or a lot worse off).			-3	-2	-1	0	+1	+2	+3
20. Major change in closeness of family members (increased or decreased closeness)			-3	-2	-1	0	+1	+2	+3

	0 to 6 mo	7 mo to 1 yr	extremely negative	moderately negative	somewhat negative	no impact	slightly positive	moderately positive	extremely positive
21. Gaining a new family member (through birth, adoption, family member moving in, etc.)			-3	-2	-1	0	+1	+2	+3
22. Change of residence			-3	-2	-1	0	+1	+2	+3
23. Marital separation from mate (due to conflict)			-3	-2	-1	0	+1	+2	+3
24. Major change in church activities (increased or decreased attendance)			-3	-2	-1	0	+1	+2	+3
25. Marital reconciliation with mate			-3	-2	-1	0	+1	+2	+3
26. Major change in number of arguments with spouse (a lot more or a lot less arguments)			-3	-2	-1	0	+1	+2	+3
27. Married male: Change in wife's work outside the home (beginning work, ceasing work, changing to a new job, etc.)			-3	-2	-1	0	+1	+2	+3
28. Married female: Change in husband's work (loss of job, beginning new job, retirement, etc.)			-3	-2	-1	0	+1	+2	+3
29. Major change in usual type and/or amount of recreation			-3	-2	-1	0	+1	+2	+3
30. Borrowing more than \$10,000 (buying home, business, etc)			-3	-2	-1	0	+1	+2	+3
31. Borrowing less than \$10,000 (buying car, TV, getting school loan, etc.)			-3	-2	-1	0	+1	+2	+3
32. Being fired from job			-3	-2	-1	0	+1	+2	+3
33. Male: wife/girlfriend having abortion			-3	-2	-1	0	+1	+2	+3
34. Female: having abortion			-3	-2	-1	0	+1	+2	+3

	0 to 6 mo	7 mo to 1 yr	extremely negative	moderately negative	somewhat negative	no impact	slightly positive	moderately positive	extremely
35. Major personal illness or injury			-3	-2	-1	0	+1	+2	+3
36. Major change in social activities, e.g. parties, movies, visiting (increased or decreased participation)			-3	-2	-1	0	+1	+2	+3
37. Major change in living conditions of family (building new home, remodeling, deterioration of home, neighborhood, etc.)			-3	-2	-1	0	+1	+2	+3
38. Divorce			-3	-2	-1	0	+1	+2	+3
39. Serious injury or illness of close friend			-3	-2	-1	0	+1	+2	+3
40. Retirement from work			-3	-2	-1	0	+1	+2	+3
41. Son or daughter leaving home (due to marriage, college, etc.)			-3	-2	-1	0	+1	+2	+3
42. Ending of formal schooling			-3	-2	-1	0	+1	+2	+3
43. Separation from spouse (due to work, travel, etc)			-3	-2	-1	0	+1	+2	+3
44. Engagement			-3	-2	-1	0	+1	+2	+3
45. Breaking up with boyfriend/girlfriend			-3	-2	-1	0	+1	+2	+3
46. Leaving home for the first time			-3	-2	-1	0	+1	+2	+3
47. Reconciliation with boyfriend/girlfriend			-3	-2	-1	0	+1	+2	+3
Other recent experiences which have had an impact on your life. List and rate.									
48. _____			-3	-2	-1	0	+1	+2	+3

_____			-3	-2	-1	0	+1	+2	+3

Appendix D

Development of Weighted ScalesDevelopment of the Weighted Social Readjustment Rating Scale

Five independent raters ranked the social readjustment scale items according to the goal area each item best fit. The raters were given the first page of the goal priority form, which gives the goal areas and an example for each area. They were also given the Social Readjustment Scale and instructed to indicate which of the eight goal areas they felt best represented each event. The results of this ranking are included. On 65% of the items rater agreement was 100%. On 46 of the 48 items agreement was at least 60%. Items 11, 35 and 20, checked by less than 10% of the sample were the only three events where rater agreement fell below this level.

See below for an example of the calculation of the weighted stress score:

Sub_k

Goal Areas	A	B	C	D	E	F	G	H
Rank assigned by subject	6	5	1	7	3	2	8	4
Stress score by area	23	0	0	0	15	0	53	12
	(26)(6)				(15)(3)		(53)(8)	(12)(4)
Weighted score	138	0	0	0	45	0	424	48

Life change unit score for Subject_k = 103

Weighted life change unit score for Subject_k = 655

Inter-Rater Agreement and Goal Areas Assigned to Each Event

% Agreement		Area	
100	1.	A	Marriage
100	2.	B	Troubles with the boss
100	3.	F	Detention in jail or other institution
100	4.	A.	Death of spouse
80	5.	E	Major change in sleeping habits (a lot more or a lot less sleep, or change in part of day when asleep)
100	6.	G	Death of close family member
60	7.	E	Major change in eating habits (a lot more or a lot less food intake, or very different meal hours or surroundings)
80	8.	C	Foreclosure on a mortgage or loan
60	9.	E	Revision of personal habits (dress, manners, associations, etc.)
100	10.	G	Death of a close friend
40	11.	F	Minor violation of the law (e.g. traffic tickets, jay walking, disturbing the peace, etc.)
100	12.	F	Outstanding personal achievement
80	13.	A	Pregnancy

100	14.	G	Major change in the health or behavior of a family member
100	15.	A	Sexual difficulties
60	16.	A	In-law troubles
100	17.	G	Major change in number of family get-togethers (e.g. a lot more or a lot less than usual)
80	18.	C	Major change in financial state (e.g. a lot worse off or a lot better off than usual)
80	19.	G	Gaining a new family member (through birth, adoption, oldster moving in etc.)
40	20.	F	Change in residence
100	21.	G	Son or daughter leaving home (e.g. marriage, attending college, etc.)
100	22.	A	Marital Separation from mate
100	23.	H	Major change in church activities (e.g. a lot more or a lot less than usual)
100	24.	A	Marital reconciliation with mate
100	25.	B	Being fired from work
100	26.	A	Divorce
100	27.	B	Changing to a different line of work

- 100 28. A Major changes in the number of arguments with spouse (e.g. either a lot more or a lot less than usual regarding childrearing, personal habits, etc.)
- 100 29. B Major change in responsibilities at work (e.g. promotion, demotion, lateral transfer)
- 60 30. A Wife beginning or ceasing work outside the home
- 100 31. B Major change in working hours or conditions
- 100 32. E Major change in usual type and/or amount of recreation
- 100 33. C Taking on a mortgage greater than \$10,000 (e.g. purchasing a home, business, etc.)
- 100 34. C Taking on a mortgage or loan less than \$10,000 (e.g. purchasing a car, TV, freezer, etc.)
- 20 35. H Major personal injury or illness
- 80 36. B Major business readjustment (e.g. merger, reorganization, bankruptcy, etc.)
- 100 37. E Major change in social activities (e.g. clubs, dancing, movies, visiting, etc.).

80	38.	C	Major changes in living conditions (e.g. building a new home, remodeling, deterioration of home or neighborhood)
60	39.	B	Retirement from work
80	40.	E	Vacation
60	41.	H	Christmas
100	42.	D	Changing to a new school
100	43.	D	Beginning or ceasing formal schooling
100	44.	A	Break up with boy/girlfriend
100	45.	D	Failed an exam
100	46.	A	Reconciliation with boy/girlfriend
100	47.	D	Achieved academic standing below your expectations
100	48.	A	Major change in arguments (increase or decrease) with boy/girlfriend

Development of the Weighted Life Event Schedule Score (WLES).

The WLES scores were calculated in the same manner as the Weighted Social Readjustment Rating Scale Scores (WSRRS). The goal area assignments made for the WSRRS were used for the corresponding LES items. All student items were assigned to area D, learning and education. Only items 33, 34 and 47 required additional rater decisions and all three were assigned to Area A, personal relationships, dating and marriage with 100% agreement.

Items 48-50 which allow for idiosyncratic personal responses could not be pre-assigned to goal areas. Only 16 of the 76 subjects included a negative response on these items. The responses were generally variations of items contained elsewhere on the form or otherwise readily identified as belonging to a given area. For example, responses included (a) slight change in health, (b) boyfriend lying for five years, (c) poor marks, (d) family problems and (e) best friend moving away.

Life Events Falling in Each Category of the WSRRS
with Supplementary Items

Area	Number	%
A. Personal Relationships, dating and marriage	13	27
B. Career Satisfaction	7	15
C. Material Possessions	5	10
D. Learning and Education	4	8
E. Leisure Satisfaction	5	10
F. Status and Respect, not in career	5	10
G. Personal Relationships, friends and family	6	13
H. Spiritual Growth and Religion	3	6

The breakdown for the WLES is similar.

(Beck, 1961)

Name: _____

Date: _____

This is a questionnaire. On the questionnaire are groups of statements. Read all statements in each group carefully. Then place an X besides the one statement in each group that best describes the way you feel right now.

A.

I do not feel sad

I feel blue or sad

I am blue or sad all the time and I can't snap out of it

I am so sad or unhappy that it is quite painful

I am so sad or unhappy that I can't stand it

B.

I am not particularly pessimistic or discouraged about the future

I feel discouraged about the future

I feel I have nothing to look forward to

I feel that I won't ever get over my troubles

I feel that the future is hopeless and that things cannot improve

C.

I do not feel like a failure

I feel I have failed more than the average person

I feel I have accomplished very little that is worthwhile or that means anything

As I look back on my life all I can see is a lot of failures

I feel I am a complete failure as a person (parent, husband, wife)

D.

I am not particularly dissatisfied

I feel bored most of the time

I don't enjoy things the way I used to

I don't get satisfaction out of anything any more

I am dissatisfied with everything

B.
 I don't feel particularly guilty
 I feel bad or unworthy a good part of the time
 I feel quite guilty
 I feel bad or unworthy practically all the time now
 I feel as though I am very bad or worthless

F.
 I don't feel I am being punished
 I have a feeling that something bad may happen to me
 I feel I am being punished or will be punished
 I feel I deserve to be punished
 I want to be punished

G.
 I don't feel disappointed in myself
 I am disappointed in myself
 I don't like myself
 I am disgusted with myself
 I hate myself

H.
 I don't feel I am any worse than anybody else
 I am critical of myself for my weaknesses or mistakes
 I blame myself for my faults
 I blame myself for everything bad that happens

I.
 I don't have any thoughts of harming myself
 I have thoughts of harming myself but I would not carry them
 out
 I feel I would be better off dead
 I feel my family would be better off if I were dead
 I have definite plans about committing suicide
 I would kill myself if I could

J.

I don't cry any more than usual
 I cry more now than I used to
 I cry all the time now. I can't stop it
 I used to be able to cry but now I can't cry at all even
 though I want to

K.

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

L.

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

M.

I make decisions about as well as ever
 I try to put off making decisions
 I have great difficulty in making decisions
 I can't make any decisions at all any more

N.

I don't feel I look any worse than I used to
 I am worried that I am looking old or unattractive
 I feel that there are permanent changes in my appearance and
 they make me look unattractive
 I feel that I am ugly or repulsive looking

O.

- I can work about as well as before
- It takes extra effort to get started at doing something
- I don't work as well as I used to
- I have to push myself very hard to do anything
- I can't do any work at all

P.

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

Q.

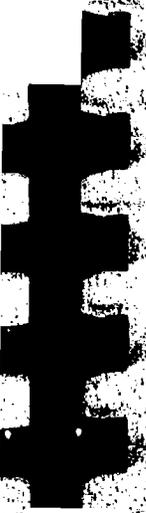
- I don't get any more tired than usual
- I get tired more easily than I used to
- I get tired from doing anything
- I get too tired to do anything

R.

- My appetite is no worse than usual
- My appetite is not as good as it used to be
- My appetite is much worse now
- I have no appetite at all any more

S.

- I haven't lost much weight, if any, lately
- I have lost more than 5 pounds
- I have lost more than 10 pounds
- I have lost more than 15 pounds



T.

I am no more concerned about my health than usual

I am concerned about aches and pains or upset stomach or constipation

I am so concerned with how I feel or what I feel that it's hard to think of much else

I am completely absorbed in what I feel

U.

I have not noticed any recent change in my interest in sex

I am less interested in sex than I used to be

I am much less interested in sex now

I have lost interest in sex completely

Appendix E

Beck Depression Inventory

Beck, Ward, Mock, Mendelson and Erbaugh (1961). The BDI is a self-rated questionnaire for depression with high internal consistency ($r=.86$) and good test-retest reliability $r=.75$ at one and three month intervals (Miller and Seligman, 1973). Validity data is favorable with a correlation of $r=.67$ between BDI change scores and clinicians ratings (Nussbaum, Wittig, Hanlon and Kurland, 1963). The Hamilton Rating Scale of Depression, a standardized observer rated scale (Schwab, Bialow, and Holzer, 1967) correlates $r=.75$ with the BDI. Beck indicates good discriminant validity with $r=.72$ between BDI and clinicians ratings of depression but only $r=.14$ between BDI and anxiety ratings.

Appendix F

Frequency of Responses on the Life Experiences Survey

Section 1	Positive Responses	Negative Responses
1. Marriage	3	3
2. Detention in jail or comparable institution	0	1
3. Death of spouse	0	0
4. Major change in sleeping habits (much more or much less sleep)	2	28
5. Death of a close family member	0	15
a. mother		
b. father		
c. brother		
d. sister		
e. grandmother		
f. grandfather		
g. other (specify)		
6. Major change in eating habits (much more or much less food intake)	16	16
7. Foreclosure on mortgage or loan	0	0

Section 1	Positive Responses	Negative Responses
8. Death of close friend	1	6
9. Outstanding personal achievement	29	0
10. Minor law violations (traffic tickets, disturbing the peace, etc.)	0	11
11. Male: wife/girlfriend's pregnancy	0	2
12. Female: pregnancy	0	1
13. Changed work situation (different work responsibility, major change in working conditions, working hours, etc.)	12	13
14. New job	10	0
15. Serious illness or injury of close family member:	1	24
a. father		
b. mother		
c. sister		

Section 1	Positive Responses	Negative Responses
d. brother		
e. grandfather		
f. grandmother		
g. spouse		
h. other (specify)		
16. Sexual difficulties	1	16
17. Trouble with employer (in danger of losing job, being suspended, demoted, etc.)	0	9
18. Trouble with in-laws	0	2
19. Major change in financial status (a lot better off or a lot worse off)	11	20
20. Major change in closeness of family members (increased of decreased closeness)	15	17
21. Gaining a new family member (through birth, adoption, family member moving in, etc.)	8	1

Section 1	Positive Responses	Negative Responses
22. Change in residence	26	5
23. Marital separation from mate (due to conflict)	1	0
24. Major change in church activities (increased or decreased attendance)	3	7
25. Marital reconciliation with mate	0	0
26. Major change in number of arguments with spouse (a lot more or a lot less arguments)	1	3
27. Married male: Change in wife's work outside the home (beginning work, ceasing work, changing to a new job, etc.)	0	0
28. Married female: Change in husband's work (loss of job, beginning new job, retirement, etc.)	0	0

Section I	Positive Responses	Negative Responses
29. Major change in usual type and/or amount of recreation	18	15
30. Borrowing more than \$10,000 (buying home, business, etc.)	0	0
31. Borrowing less than \$10,000 (buying car, TV, getting school loan, etc.)	3	13
32. Being fired from job	0	3
33. Male: wife/girlfriend having abortion	0	1
34. Female: having abortion	0	1
35. Major personal illness or injury	0	2
36. Major change in social activities, e.g. parties, moving, visiting (increased or decreased participation)	31	13
37. Major change in living conditions of family (building new home,		

Section 1	Positive Responses	Negative Responses
remodeling, deterioration of home, neighborhood, etc.)	6	1
38. Divorce	0	3
39. Serious injury or illness of close friend:	0	4
40. Retirement from work	0	0
41. Son or daughter leaving home (due to marriage, college, etc.)	0	0
42. Ending of formal schooling	3	0
43. Separation from spouse (due to work, travel, etc.)	0	1
44. Engagement	5	1
45. Breaking up with boyfriend/ girlfriend	6	21
46. Leaving home for the first time	10	4
47. Reconciliation with boyfriend/ girlfriend	7	1

Section 1

Positive
ResponsesNegative
Responses

Other recent experiences which
have had an impact on your
life. List and rate.

48. _____

49. _____

50. _____

23

23

Section 2: Student Only

51. Beginning a new school
experience at a higher
academic level (college,
graduate school, professional
school, etc.)
52. Changing to a new school
at same academic level
(undergraduate, graduate,
etc.)

40

3

6

0

Section 2	Positive Responses	Negative Responses
53. Academic probation	0	3
54. Being dismissed from dormitory or other residence	0	0
55. Failing an important exam	1	27
56. Changing a major	6	1
57. Failing a course	0	11
58. Dropping a course	5	7
59. Joining a fraternity/sorority	1	0
60. Financial problems concerning school (in danger of not having sufficient money to continue)	0	13

Table 1

Predominant Pattern-First Goal Ranking

Area	\bar{X} Rank	Rank
G: Personal Relationships, family and friends	6.39	8
A: Personal Relationships, dating and marriage	5.94	7
D: Learning and Education	5.47	6
B: Career Satisfaction	5.25	5
E: Leisure Satisfactions	3.75	4
H: Spiritual Growth and Religion	3.55	3
F: Status and Respect, not cared related	3.33	2
C: Material Possessions	2.30	1

Table 2

Goal Area Pattern: Female Subjects

Area	\bar{X} Rank	S.D.	Rank
G: Personal Relationships, family and friends	6.75	1.38	8
A: Personal Relationships, dating and marriage	6.14	1.98	7
D: Learning and Education	5.35	1.82	6
B: Career Satisfaction	5.13	1.68	5
H: Spiritual Growth and Religion	3.91	2.20	4
E: Leisure Satisfaction	3.50	1.46	3
F: Status and Respect, not in career	3.16	1.69	2
C: Material Possessions	2.07	1.28	1

Table 3

Goal Area Pattern: Male Subjects

Area	\bar{X} Rank	S.D.	Rank
G: Personal Relationships, family and friends	5.77	1.77	8
D: Learning and Education	5.68	1.99	7
A: Personal Relationships, dating and marriage	5.59	2.04	6
B: Career Satisfaction	5.45	1.78	5
E: Leisure Satisfaction	4.18	1.66	4
F: Status and Respect, not in career	3.63	1.96	3
H: Spiritual Growth and Religion	2.93	2.58	2
C: Material Possessions	2.71	1.58	1

Table 4

Predominant Pattern - Second Goal Ranking

Rank	Area	\bar{X} Rank	Average Rank Time 1 and 2
8	A: Personal Relationships, dating and marriage	6.2	7.5
7	B: Career Satisfaction	5.71	6
6	G: Personal Relationships, family and friends	5.44	7
5	D: Learning and Education	5.17	5.5
4	E: Leisure Satisfaction	3.84	4
3	H: Spiritual Growth and Religion	3.78	3
2	C: Material Possessions	2.83	1.5
1	F: Status and Respect, not in career	2.75	1.5

Table 5

Goal Area Pattern: Female Subjects

Rank	Area	\bar{X} Rank	S.D.	Average Rank Time 1 and 2
8	A: Personal Relationships, dating and marriage	6.18	1.96	7.5
7	G: Personal Relationships, family and friends	5.77	1.74	7.5
6	B: Career Satisfaction	5.59	2.29	5.5
5	D: Learning and Education	5.16	1.94	5.5
4	H: Spiritual Growth and Religion	4.03	2.40	4
3	E: Leisure Satisfaction	3.39	1.66	3
2	F: Status and Respect, not in career	2.73	1.63	2
1	C: Material Possessions	2.65	1.55	1

Table 6

Goal Area Pattern: Male Subjects

Rank	Area	\bar{X} Rank	S.D.	Average Rank Time 1 and 2
8	A: Personal Relationships, dating and marriage	6.23	1.99	7
7	B: Career Satisfaction	5.92	2.08	6
6	D: Learning and Education	5.18	2.27	6.5
5	G: Personal Relationships, family and friends	4.83	1.76	6.5
4	E: Lesiure Satisfactions	4.67	1.61	4
3	H: Spiritual Growth and Religion	3.33	2.68	2.5
2	C: Material Possessions	3.17	1.69	1.5
1	F: Status and Respect, not in career	2.79	1.67	2

Table 7.

Mean Change Scores

	Female	Male	Overall
\bar{X}	7.93	9.33	8.43
S.D.	4.66	5.43	4.95

Table 8

WSRS Scores

First Goal Ranking

	WSRS Scores	Female WSRS Scores	Male WSRS Scores	WSRS Scores and Supplementary Scores	Female WSRS Scores and Supplementary Scores	Males WSRS Scores and Supplementary Scores
	N=76	N=48	N=28	N=76	N=48	N=48
\bar{X}	527	501	572	667	613	734
S	338	342	332	405	423	346

(table continues)

Second Goal Ranking

	WSRS Scores and Supplementary Scores	Female WSRS Scores and Supplementary Scores	Male WSRS Scores and Supplementary Scores
\bar{X}	N=67 656	N=43 598	N=24 759
S	400	422	344

Table 9

WLES ScoresFirst Goal Ranking

	WLES	WLES Female	WLES Male
	Scores	Scores	Scores
	N=74	N=46	N=28
\bar{X}	47.5	41	58.1
S	40.8	38.6	42.9

Second Goal Ranking

	WLES	WLES Female	WLES Male
	Scores	Scores	Scores
	N=74	N=43	N=24
\bar{X}	46.5	37.6	60.5
S	39.1	37.3	39.2

Table 10

Results of the Paired Regressions: Stress Measures on Depression ScoresFirst Goal Rankings

Predictor Variable	Coefficient	SD of Coefficient	T Ratio	r Squared	r Squared Adjusted for D.F.
Social Readjustment Scale	3.12	1.549	2.01		
	0.0425	0.01114	3.82	16.4%	15.3%
WSRRS	3.34	1.339	2.49		
	0.00944	1.002144	4.40	20.8%	19.7%
Social Readjustment Scale with Supplementary Items	2.32	1.517	1.53		
	0.0414	0.009251	4.48	21.3%	20.3%
WSRRS with Supplementary Items	2.51	1.337	1.88		
	0.00878	0.001727	5.08	25.9%	24.9%
Life Event Schedule	3.87	1.019	3.80		
	0.493	0.08400	5.86	32.3%	31.4%
WLES Schedule	3.53	1.015	3.48		
	0.102	0.01626	6.25	35.1%	34.2%

(continues)

Analysis of Variance

Predictor Variable	Due to	DF	SS	MS	Fobt.	P.
Social Readjustment Scale	Regression	1	604.08	604.08	14.56	p<.01
	Residual	74	3070.34	41.49		
WSRRS	Regression	1	763.04	763.04	19.4	p<.01
	Residual	74	2911.38	39.34		
Social Readjustment Scale with Supplementary Items	Regression	1	783.77	783.77	20.6	p<.01
	Residual	74	2890.65	39.06		
WSRRS with Supplementary Items	Regression	1	951.18	951.18	25.85	p<.01
	Residual	74	2723.24	36.80		
Life Event Schedule	Regression	1	1154.7	1154.7	34.37	p<.01
	Residual	72	2418.1	33.6		
WLES	Regression	1	1255.5	1255.5	39.0	p<.01
	Residual	72	2317.4	32.2		

(continued)

Second Goal Ranking

Predictor Variable	Coefficient	SD of Coefficient	T Ratio	r Squared	r Squared Adjusted for D.F.
Social Readjustment Scale	2.70	1.631	1.66		
with Supplementary Items	0.0417	0.00991	4.20	21.4%	20.2%
WSRRS Scale with	3.20	1.519	2.11		
Supplementary Items	0.00839	0.001982	4.24	21.6%	20.4%
Life Experiences Survey	4.191	1.098	3.82		
	0.482	0.08881	5.42	31.2%	30.1%
WLES Schedule	3.32	1.062	3.13		
	0.116	0.01765	6.54	39.7%	38.8%

(continues)

Analysis of Variance

Predictor Variable	Due To	DF	SS	MS	Fobt.	P.
Social Readjustment Scale with Supplementary Items	Regression	1	736.61	736.61	17.67	p<.01
	Residual	65	2709.42	41.68		
WSRRS with Supplementary Items	Regression	1	745.32	745.32	17.94	p<.01
	Residual	65	2700.71	41.55		
Life Event Schedule	Regression	1	1064.7	1064.7	29.41	p<.01
	Residual	65	2353.2	36.2		
WLES	Regression	1	1357.3	1357.3	42.82	p<.01
	Residual	65	2060.6	31.7		

Figure 3

Distribution of Social Readjustment Rating Scale Scores

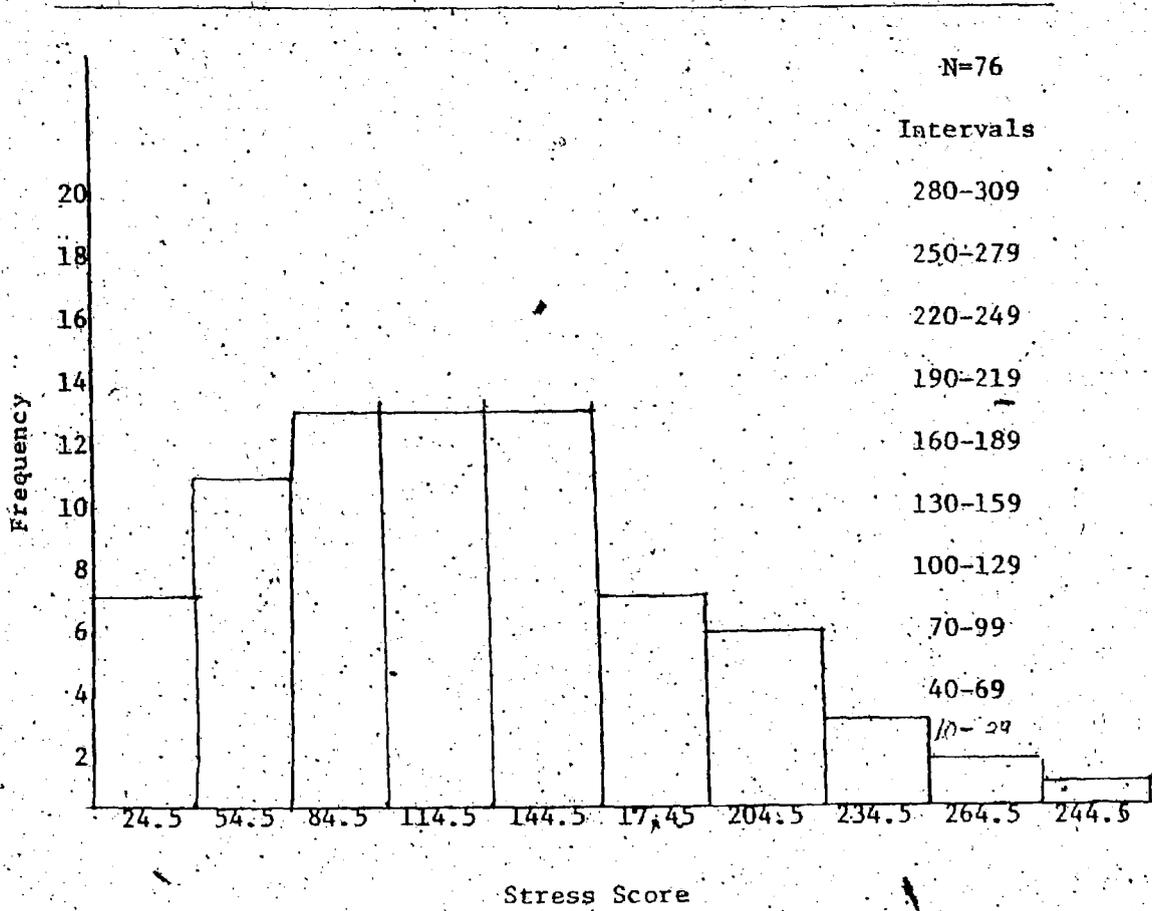


Figure 4

Distribution of Female Social Readjustment Rating Scale Scores

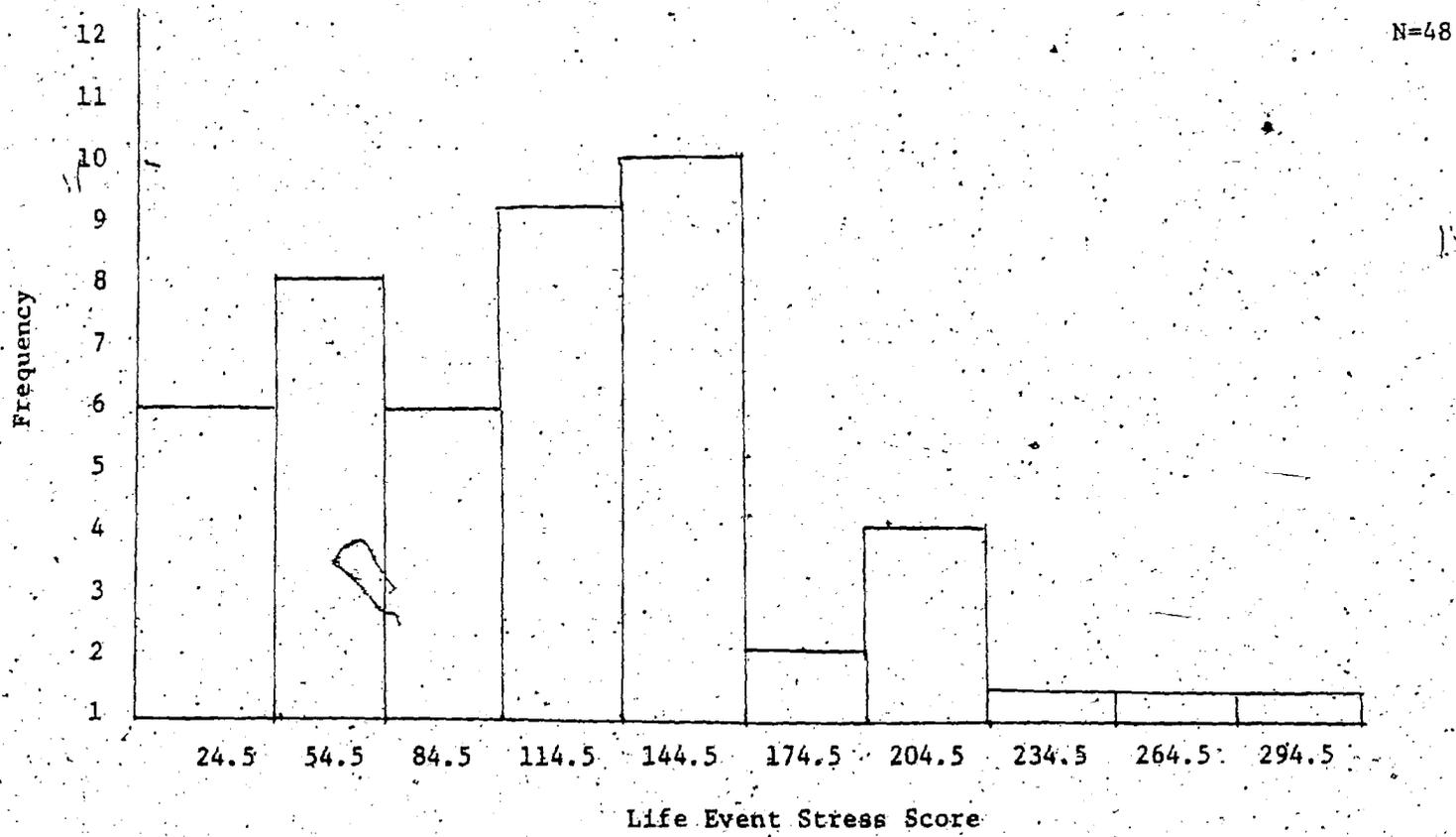


Figure 5.

Distribution of Male Social Readjustment Rating Scale Scores

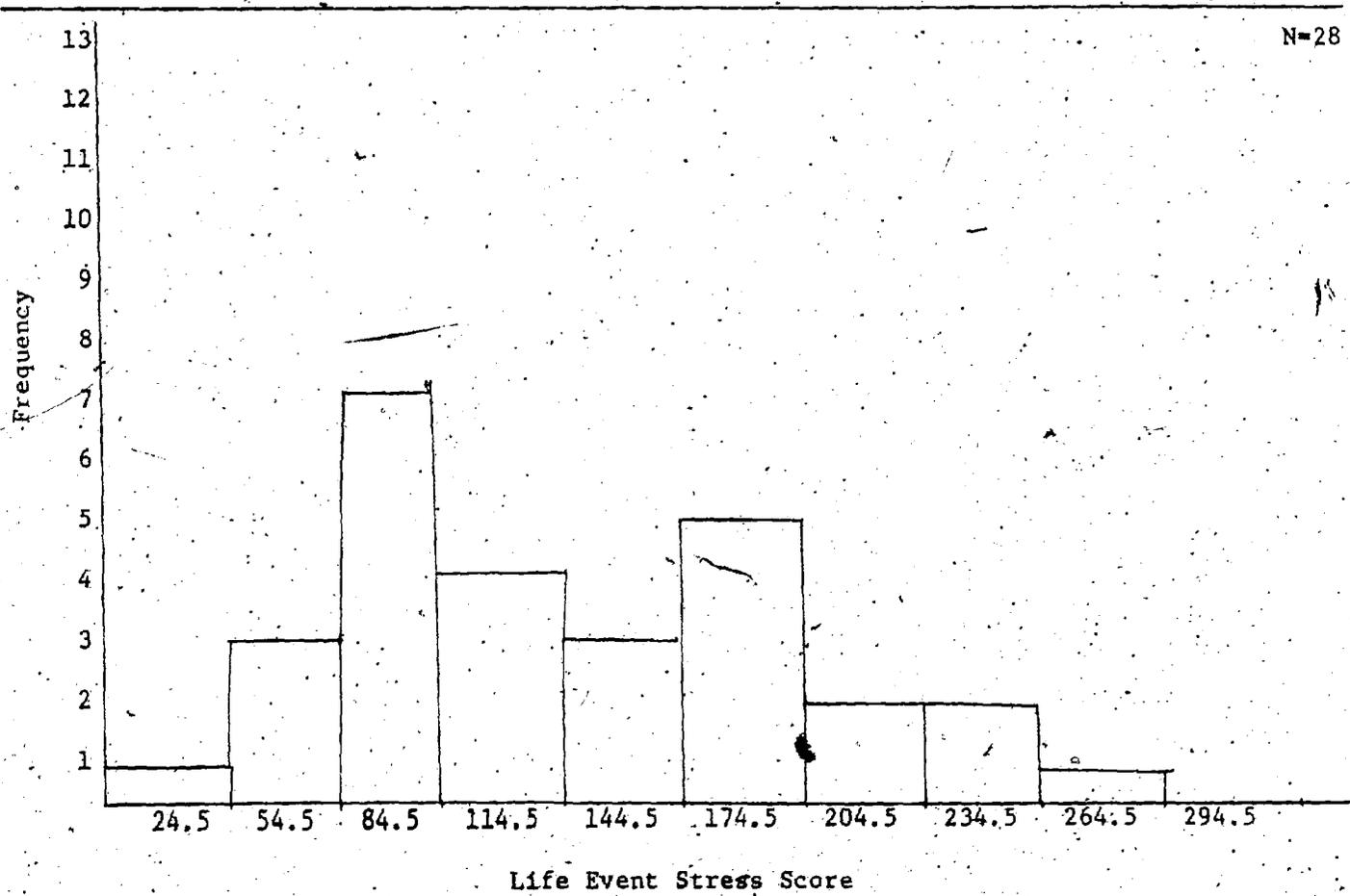


Figure 6

Distribution of LES Scores

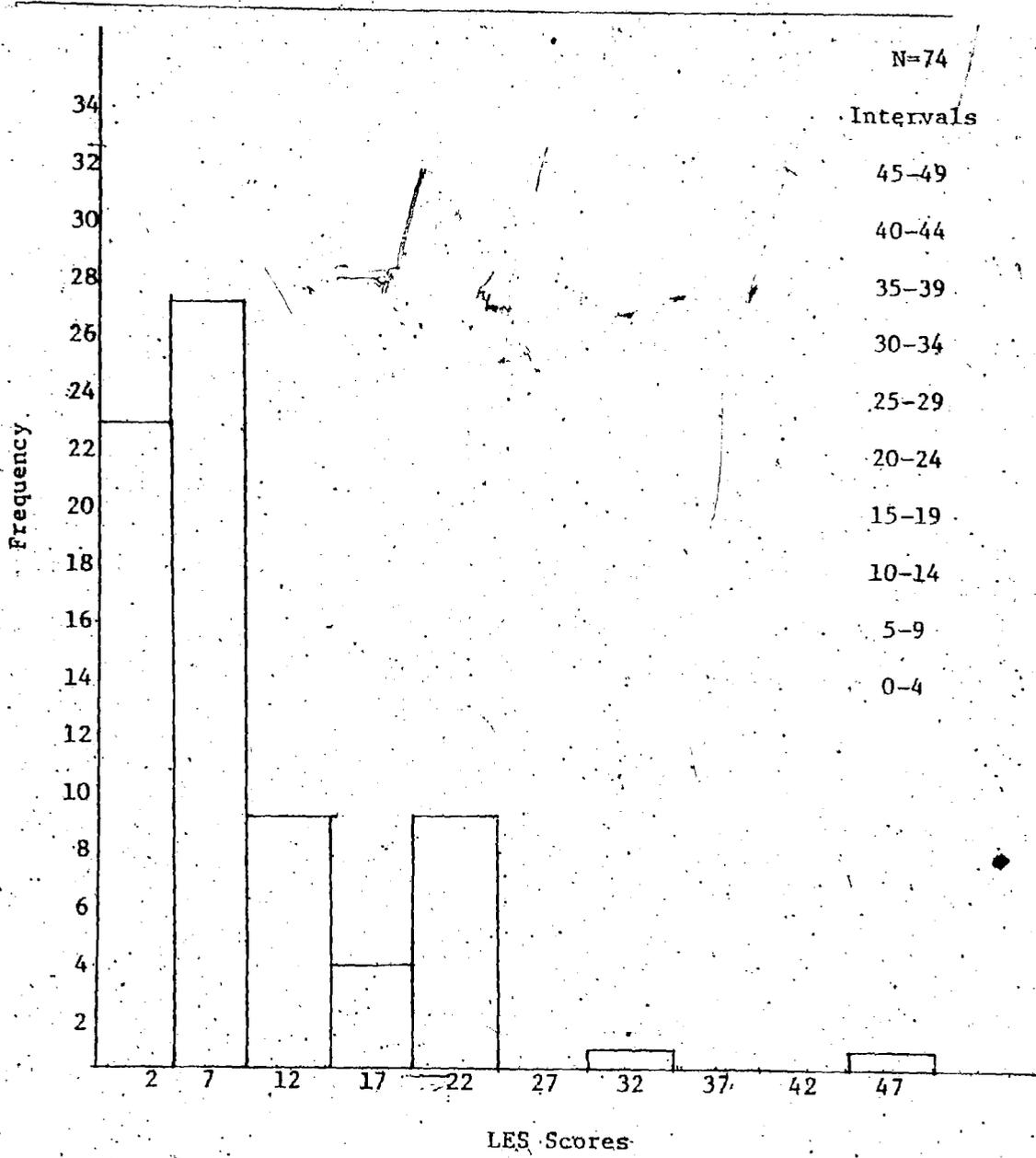


Figure 7
Distribution of Female LES Scores

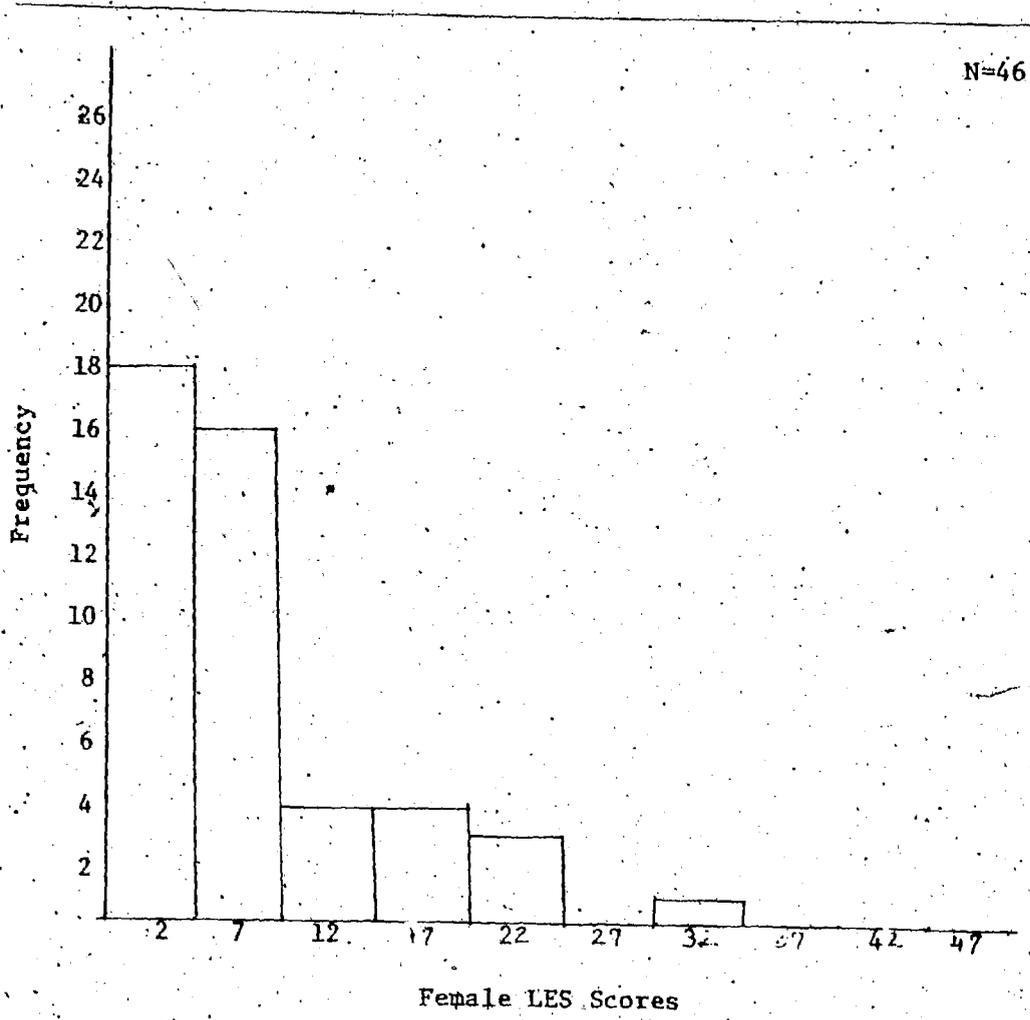


Figure 8
Distribution of Male LES Scores

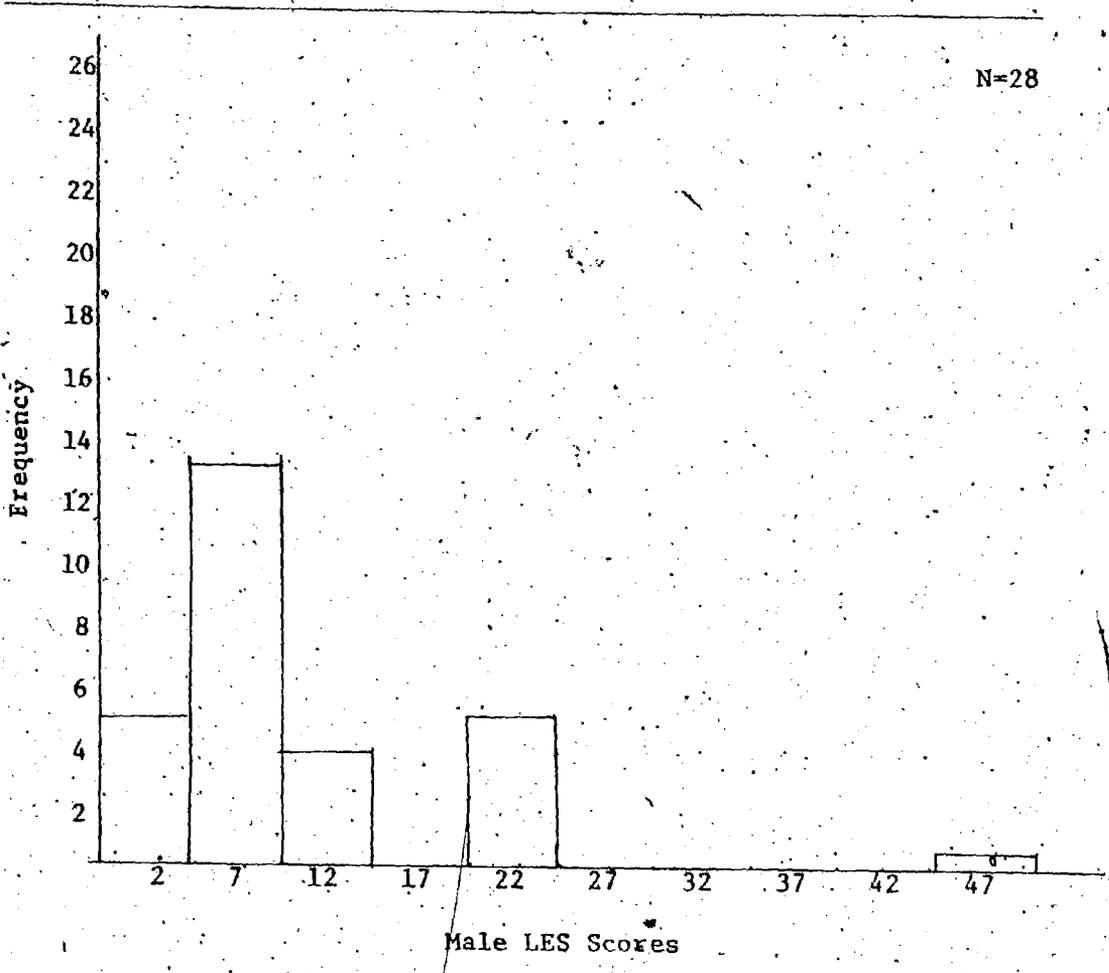


Figure 9
Distribution of BDI Scores.

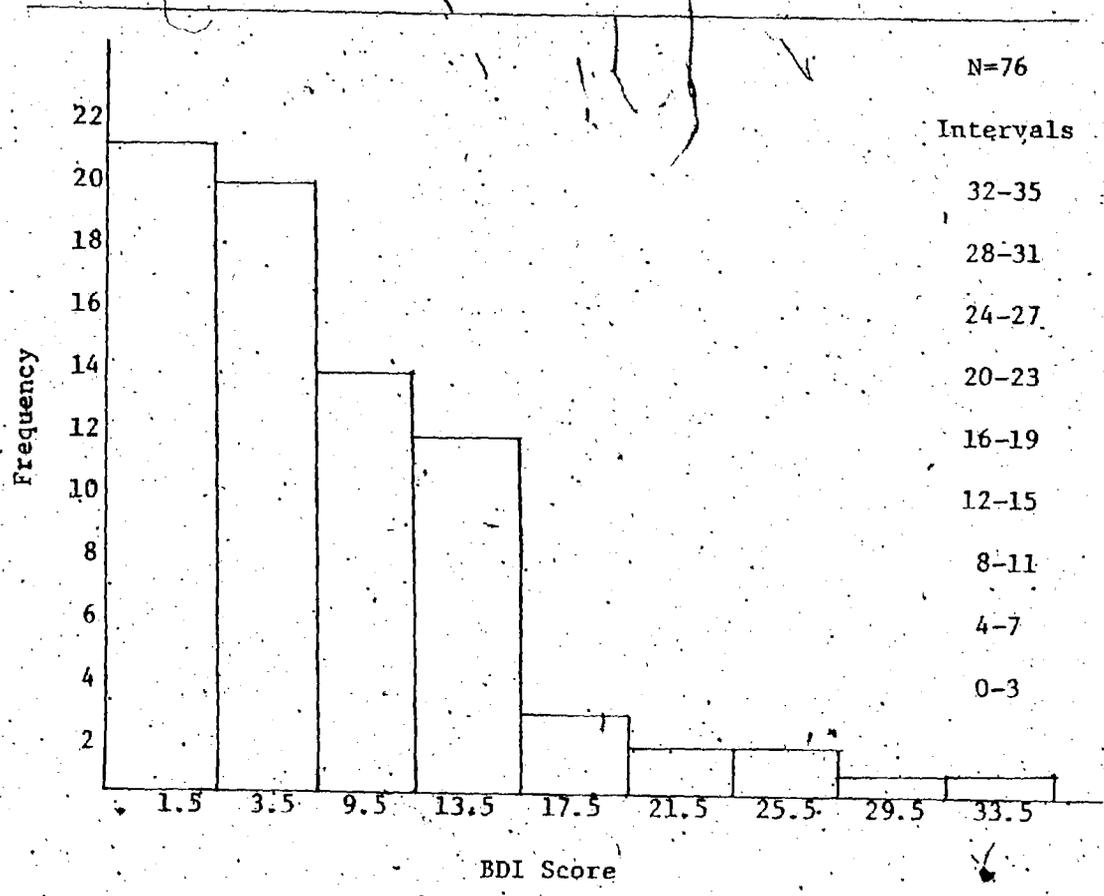


Figure 10
Distribution of Female BDI Scores

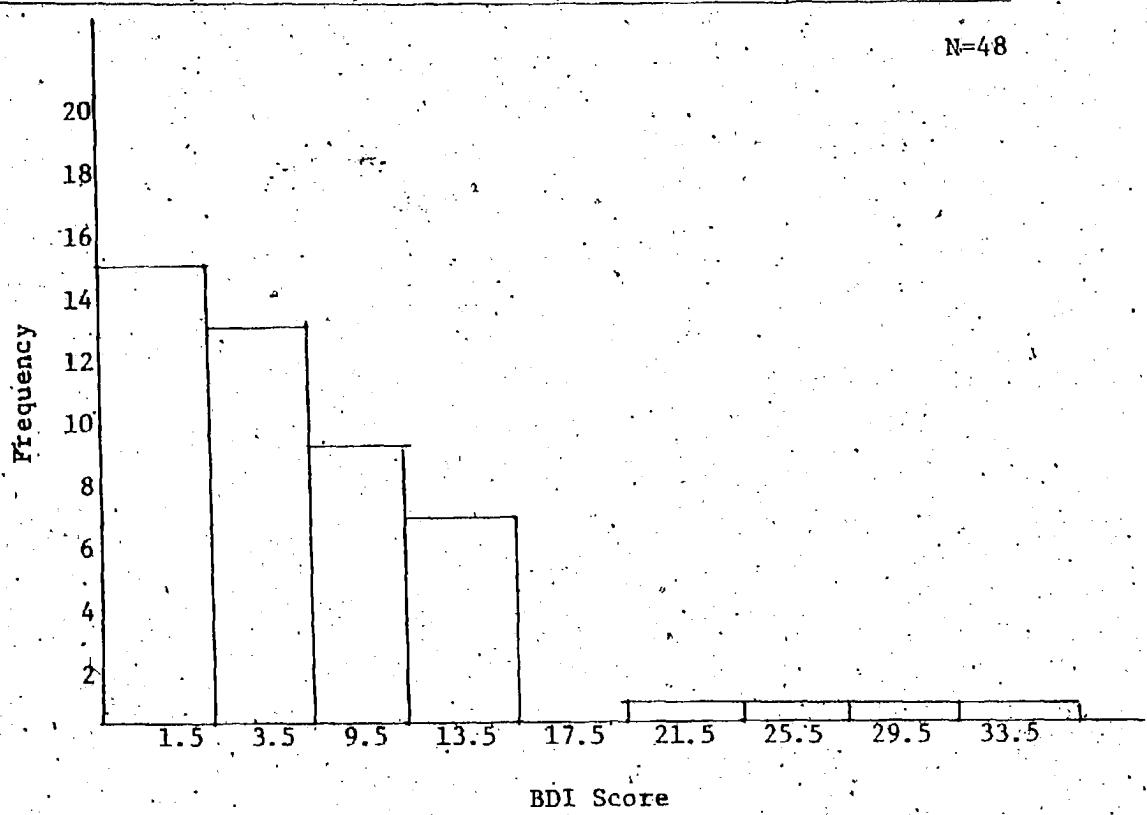


Figure 11

Distribution of Male BDI Scores

