The Effects of a Cognitive Stress Management Program on Perceptions of Stress Levels

Sara Sue Schaeffer

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THE EFFECTS OF A COGNITIVE STRESS MANAGEMENT PROGRAM ON PERCEPTIONS OF STRESS LEVELS

by

Sara Sue Schaeffer

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

Western Michigan University
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The effects of a cognitively oriented stress management program on perceptions of stress levels was assessed utilizing a pre-post test format with randomly selected experimental and control groups. Between the pre and post tests the experimental group experienced the stress management workshop which focused on four major components: becoming aware of stress and its effects, assessing personal responses to stress, learning effective coping strategies, and designing a personal stress management program. Two measurement instruments were utilized. The Stress Program Assessment Instrument (SPAI) measured participant's cognitive knowledge of stress and coping strategies. The Life Experiences Survey (LES) measured participants' perceptions of their stress levels. Twenty-one subjects participated in the control group and 21 in the experimental group. Both groups showed a significant difference at the .10 level in change scores on the SPAI pre to post, while experimental group change scores were highly significant. The within group LES negative scores decreased significantly at the .10 level. No other significant difference was found in the positive or total LES scores for either group, and none of the correlations between SPAI and LES scores reached significance for either group. Therefore, it appears that the workshop did increase cognitive knowledge of stress and coping ability while positively altering perceptions of stress levels for the experimental group, thus providing a rationale for continuing to offer the stress management workshops.
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Western Michigan University

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SARA SUE SCHAEFFER
# TABLE OF CONTENTS

ACKNOWLEDGEMENTS ......................................................... ii
LIST OF TABLES ............................................................... vii

## CHAPTER

I. INTRODUCTION .......................................................... 1
   Problem Statement .................................................... 1
   Nature of Stress ....................................................... 1
   Stress Defined .......................................................... 2
   Seriousness of the Problem ......................................... 3
   Outline of a Preventive Stress Management Model .......... 4
   Objective of the Study ................................................. 5

II. REVIEW OF LITERATURE AND DEVELOPMENT OF MODEL ........................................... 6
   Stress Model ............................................................ 6
   Stress Management Program ....................................... 7
   Didactic Information .................................................. 7
   Personal Responses to Stress ..................................... 8
   Coping Strategies .................................................... 10
   Maintaining Stress at Safe Levels ............................... 12

III. DESIGN OF THE STUDY ............................................... 13
   Parameters .............................................................. 13
   The Instruments ....................................................... 14
   Stress Program Assessment
   Instrument ............................................................... 14
   Life Experiences Survey ............................................ 15
E. Informed Consent and Related Documents ......... 79

BIBLIOGRAPHY .............................................................. 85
LIST OF TABLES

1. Prototype for Table 7: A Comparison of Pre and Post Test Scores Within Groups ................................................. 21
2. Prototype for Table 8: Differences Between Experimental and Control Group Mean Change Scores ......................................................... 22
3. Prototype for Table 9: SPAI and LES Correlations and Correlation Differences for Both Experimental and Control Groups ................................................. 23
4. Mean Scores and Standard Deviations for Pre and Post Test Score, Experimental Group ................................................. 26
5. Mean Scores and Standard Deviations for Pre and Post Test Scores, Control Group ................................................. 26
6. Mean Change Scores and Standard Deviations for Experimental and Control Groups ................................................. 27
7. A Comparison of Pre and Post Test Scores Within Groups ................................................. 28
8. Differences Between Experimental and Control Group Mean Change Scores ................................................. 30
9. SPAI And LES Correlations and Correlation Differences for Both Experimental and Control Groups ................................................. 32
CHAPTER I

INTRODUCTION

Problem Statement

The Nature of Stress

Stress has an impact on all our lives. It is impossible to live in our modern, complex society without encountering at least some degree of stress. Interestingly, stress can denote something either positive or negative. "Distress" is always negative and impairs the functioning of an individual. "Eustress" or "good stress" refers to the excitement felt as a result of positive life events (i.e. job promotion, graduation, one's wedding). Thus stress is not necessarily good or bad; it is simply a time of extra strain. However, whether the stress is positive or negative the biological response is the same (Seyle, 1974).

There are three levels of stress to be considered (Forbes, 1979). Understress (too little stress which can result in boredom, absenteeism from work, alcoholism, substance abuse); regular stress (the kind that keeps you keyed up and full of zest); and stress-overload (which results in burnout, physical, and emotional disorders). There are great individual differences in the amount of stress a person needs in order to be happy (Seyle, 1974). Either too much or too little stress can result in serious problems. The key to dealing with stress effectively is for people to know their own coping abilities, to recognize the amount of stress they need to be energized and to function effectively, and to manage the stress in their lives so that it falls within these limits.
Stress Defined

Seyle (1974), one of the pioneers in the field of stress research, defines stress as the non-specific response of the body to any demand made on it. He sees stress as a predictable, identifiable biochemical reaction within the body and focuses on the physiological response to stress.

Benson's (1975) definition points up the behavioral impact of stress on the individual. His relaxation response is designed to assist people in learning behavioral interventions aimed at altering their biological reaction to stress stimuli. He defines stress as environmental demands that require behavioral adjustment.

The impact of the possibility of harm or threat to an individual is a key element in Lazarus' (1966) definition of stress. He believes that for a situation to be stressful it must involve harm or loss, threat or challenge, and it must be viewed as taxing or exceeding the individual's resources to deal with it effectively.

Woolfolk and Richardson (1978) emphasize the importance of perception in defining stress. They contend that events in themselves do not produce stress, but rather it is the individual's perception of the events that cause the events to be stressful. They believe that stress results when demands placed on the individual make the individual question the degree to which he/she can respond with success and comfort. They identify three components of the Stress Reaction: environment, perception of environment, and emotional and physical arousal. Stress can be eliminated by dealing effectively with any one of the three components.
Seriousness of the Problem

A 1979 survey conducted by the National Institute of Mental Health (Girando and Everly, 1980) found that some 27% of American adults reported experiencing high levels of psychic distress. Bloom (1981) estimates that of these 15% or 32 million persons are at least partially disabled by the stress they experience and nearly 7 million receive no care of any kind.

It is estimated that at least half of all medical problems are stress-related (Girdano and Everly, 1978). Hypertension afflicts approximately one out of five American adults and has as one of its major causes psychological stress. When stress is intense and prolonged, temporary blood pressure elevation may become permanent (Woolfolk and Richardson, 1978). Hypertension is a major factor in strokes which can cause irreversible brain and heart damage and account for as many as 50% of the deaths in the United States each year (Culligan and Sedlacek, 1979).

Classic stress studies by Friedman and Rosenman (1974) indicate that men with stressful personalities are more prone to heart problems than their non-stressful counterparts. Their study indicates that men with stressful personality types have three times the incidence of coronary heart disease as do men with non-stressful type personalities. Woolfolk and Richardson conclude that stress may indeed have more effect on the serum cholesterol level of the blood than do diet, smoking, and exercise.

Stress also makes people more susceptible to infection according to Woolfolk and Richardson. Persons under stress have an excess of glucocorticoid hormones in their blood. These hormones decrease the body's ability to manufacture antibodies.
Even infertility has been demonstrated to be stress-related. Psychic
distress accounted for about 90% of the cases of infertility in a study done by
Dr. Charles Fancher (1979).

Outline of a Preventive Stress Management Model

The following stress management model was developed after an
extensive review of stress literature and several pilot workshops. The
majority of stress management models focus almost entirely on the utilization
of relaxation techniques and biofeedback as stress management tools. The
unique features of this model include a focus on: 1) support systems to
mediate stress, especially in crisis situations, 2) the introduction of the
concept of two distinct kinds of coping strategies (distancing strategies to be
used with stressors which cannot be controlled or changed, and confronting
strategies to be used when modification of the stressor is both possible and
appropriate), and 3) teaching subjects to match appropriate coping strategies
with their stressors. Following is an outline of the stress management model:

I. Didactic Information
   A. Definition of Stress
   B. Stress Statistics
   C. Physiological Responses to Stress
   D. The Flight or Fight Response, The Possum
      Response

II. Personal Responses to Stress
   A. Physical and Emotional Responses
   B. The Glazer-Stress Control Life-Style
      Questionnaire
This study measured the effects of the Preventive Stress Management Model outlined briefly in the previous section on participants' perceptions of their stress levels. Sarason, Johnson, and Siefel's (1978) Life Experiences Survey was utilized as a measure of perception of stress levels and was correlated with participants' scores on a Stress Program Assessment Instrument (SPAI) which measures cognitive retention of material presented in the Stress Management Workshop.
CHAPTER II

REVIEW OF LITERATURE AND DEVELOPMENT OF MODEL

Stress Model

Stress has become a nationally recognized problem and today stress management programs, workshops, and self-help books abound. While many of these programs offer suggestions that are helpful in dealing with stress, few if any provide a complete and comprehensive model for effectively managing the very complex problem of stress.

As our society becomes more fast-paced and complex, problems associated with stress increase dramatically. Studies conducted by Dr. Jean Mayer (cited in Dudley & Welke, 1979, p. 156) of Harvard University point out that in a study of a primitive Equadorian society there were 1,100 centenarians per 100,000 inhabitants as compared with 3 per 100,000 in the United States. Diet and hygiene were found not to be significant factors in assessing why people lived longer in the primitive society. The key factors were found to be physical exercise and freedom from stress which included not forcing retirement but encouraging people to be respected, vital, contributing members of society well into their later years. In fact, it was recently reported that women who have altered their lifestyles to fit executive careers have shown up to a 2,000 percent increase in coronary problems (Nuernberger, 1981).

Stress is a stimulus-response phenomenon. Lazarus (1966) points out that psychological stress does not reside in either the person or the situation exclusively, but in the interaction between the two. Thus stress can be
impacted at three points: the stressor, the individual, or the interaction between the two (See Appendix A, p. 41).

Stressors can be impacted in a number of ways. They can be changed, eliminated, controlled, or avoided.

An individual can alter the course of stress by employing effective coping strategies (such as meditation, exercise, relaxation). Coping strategies are important because no individual in our society can totally escape stress, and the better an individual's coping abilities the less devastating will be the impact of stress. Employing good preventive strategies (such as proper diet, maintaining overall good health, and developing effective support systems) is another way in which the individual can reduce the negative impact of stress.

The third area of impact is very important and often overlooked: the interaction of the individual and the stressor. The stressors or stimuli are taken in by the individual through a filtering or funneling system made up of the individual's values, beliefs, attitudes, and perceptions. If an individual can alter perceptions, beliefs, values and attitudes so as not to view the stimuli as stressful, stress does not enter the system of the individual and there is no chance for it to have a negative impact.

It is upon this theory of dealing with stress that the following stress management program was designed.

Stress Management Program

Didactic Information

The first phase of the program is a didactic one. Initially, various definitions of stress are reviewed and explored to allow participants to formulate their own working definitions of stress. The notion that stress can
be positive or negative is explored (Seyle, 1974). Physiological responses to stress including the fight or flight response are discussed. The concept of the possum response (Nuernberger, 1981), a withdrawing from stress, is introduced.

A review of statistics which point out the potentially devastating effects of stress has been found to be very effective at this stage of the workshop. Such a review helps participants understand the danger inherent in stress and the importance of a preventive stress management program, resulting in their becoming even more invested in the stress management program. At this point in the program recent research conducted by Frey (1980) on the effect of stimulus on the chemical composition of human tears is reviewed and discussed. This research provides evidence that there is, in fact, a difference in the chemical composition of tears shed as a result of emotional stress and those which are artificially induced. Crying, then, is an effective means of clearing the body of some of the chemical build-up which takes place during the arousal of the flight or fight response. The implications of these findings are discussed with participants especially in relation to the messages given by society concerning the appropriateness of crying. Also covered in the initial didactic phase of the program is the life diamond concept which emphasizes the interrelationship between an individual's job, family, relationship to society, and sense of self.

**Personal Responses to Stress**

The focus of the second phase of the stress management program is on each of the participant's individual response to stress. There is discussion of typical physical, emotional, and behavioral responses to stress followed by
participants being asked to identify their personal responses in these three categories. An awareness of these responses is critical as this awareness often provides the individual the first clue that a stress response is occurring, and this provides an opportunity for an early intervention.

A number of tools assist participants in identifying their individual profiles with regard to stress (See Program Handouts, Appendix A). The Glazer-Stress Control Life Style Questionnaire provides a means by which participants can begin to address the issue of their personality types based on Friedman and Rosenman's (1974) classification.

A life change measure such as the Schedule of Recent Experiences (Holmes and Rahe, 1967) or the Life Experiences Survey (Sarason et al, 1978) is given to help participants assess the degree of change occurring in their lives. Holmes and Rahe believe that too much life change over a short period of time initiates illness, and the greater the amount of life change the more serious the illness. Participants are encouraged to be aware of the degree of life change they are experiencing and to attempt to effectively manage the amount of change in their lives.

The bank account theory of stress is based on Seyle's (1974) concept of adaptation energy. Seyle contends that adaptation energy is finite. Everyone has reserves of adaptation energy in a bank account, the amount of which is determined by inherited factors and environmental factors encountered in the formative years. Thus the amount or principle varies for each individual. The individual can spend the principle and the principle can earn interest. The key concept is to spend this adaptation energy wisely by utilizing only the interest and leaving the principle intact. It is difficult to replace the principle, contends Seyle, and spending all of the principle would result in death.
The art of coping is learning to spend and replenish the interest wisely without touching the principle. To help participants develop a sense of the extent of their coping skills an adaptation of Berle's Coping Scale is utilized (Dudley and Welke, p. 69-71).

Once participants have completed their individual stress profiles the issue of stressors is addressed. Individual stressors are identified and the concept that perception is a critical factor in what is identified by an individual to be a stressor is emphasized.

Coping Strategies

The effects of stress can be mediated not only by an individual's perception of the stressor and the degree to which effective stress management techniques are used, but also by the social support a person receives (Greenblatt, Bercerra, and Serafetinides, 1982). Certain exercises and activities assist participants in identifying the extent of their personal support systems as well as strategies for expanding and maintaining effective support systems.

Support systems are an important preventive strategy in stress management and are especially important in times of crisis when the individual's other resources for coping with stress may be impaired.

This third phase of the stress management program focuses on coping strategies. Participants are asked to look at the ineffective strategies they employ and to experience an exercise which emphasizes how ineffective or inappropriate strategies can actually increase levels of stress. They are then introduced to the concept of what characterizes a helpful coping strategy: 1) It discharges the energy created by the flight or fight response, 2) It may
divert one's attention, 3) It creates a feeling of control, allowing people to feel better about themselves and the situation, and 4) The directed activity may change or influence the stressor, the individual, or their interaction.

The next critical step is for participants to learn to use eight helpful coping strategies appropriately. Four of the strategies are distancing strategies designed to deal with stressors over which one has little or no control and cannot change. Distancing strategies are diverting strategies which put time, space, and distance between the individual and the stressor. They include: relaxation and meditation, avoiding the stressor, physical exercise, and pampering oneself.

Confronting strategies are employed to deal with stressors that can be controlled or when altering perceptions and/or modifying the stressor are both appropriate and possible. Confronting strategies involve changing the stressor or self in a helpful way and include: eliminating the stressor, changing the environment, impacting the behavior of others, and changing one's perceptions.

Participants need to learn to match coping strategies appropriately with the stressors in their lives. The matching concept is important because even helpful strategies when used inappropriately will be ineffective. Using a confronting technique when distancing is more appropriate adds to the stress. Using a distancing technique when confronting is more appropriate is a band-aid approach. It deals with the symptom and not the source, and one must often keep dealing with it again and again.
Maintaining Stress at Safe Levels

Phase four of the model summarizes strategies for maintaining stress at safe levels. Participants design their own stress management plan taking into account their own coping resources, their stressors, and the coping strategies that should be matched with them. (See Appendix A, p. 60).

Participants make a contract to follow their stress management programs for a period of one month and to keep a log of the results. At that time the group will reconvene to discuss what worked and what did not. Written feedback will also be obtained. (See Appendix A, p. 61). Participants also will take again the Life Experiences Survey and the Stress Program Assessment Instrument to compare results with their previous results.
CHAPTER III

DESIGN OF THE STUDY

The research hypothesis tested in this study is: Participants' stress levels, as perceived by the participants themselves, will decrease as a result of the cognitive skills learned in the Stress Management program.

A pre and post test control group design which incorporates random selection of participants from a list of those electing to participate in the Stress Management Program was utilized, represented as follows:

\[
\begin{array}{c}
R \\ Y_b \\ X \\ Y_a
\end{array} \quad \begin{array}{c}
Y_b \\ X \\ Y_a
\end{array}
\]

Subjects in both the control and experimental groups were given two instruments prior to the Stress Management Program and again one month following the completion of the program. The Life Experiences Survey was used to assess subjects' pre-post perceptions of their stress levels. In addition, a Stress Program Assessment Instrument was utilized to assess subjects' knowledge of the cognitive skills which are taught in the Stress Management Program. Scores were correlated to assess the effect of the cognitive skills learned in the program on subjects' perceptions of their stress levels.

Parameters

The target population for this study was employees of the Veterans Administration Medical Center in Battle Creek, Michigan, a neuropsychiatric hospital with approximately 1500 employees and 1000 patients who are veterans of the military service. All employees of the medical center were eligible to participate in the Stress Management Program. Subjects came
from clinical areas such as medicine, psychiatry, nursing, psychology, social work, etc.; from management; or from administrative services such as engineering, building management, medical administration, personnel, etc. Such diversity is desirable to insure the generalizability of the study.

Participants in the Stress Management Program were randomly selected from a list of all employees who signed up for the Stress Management Program. Twenty-one subjects participated in the experimental group and 21 participated in the control group. The control group was a delayed control group in that they participated in a stress management program following the completion of the present study.

The Instruments

**Stress Program Assessment Instrument.**

In order to assess the cognitive skills acquired in the workshop a Stress Program Assessment Instrument (SPAI) was designed using a four distractor format (See Appendix C, p. 68). The SPAI was designed to measure the following learning objectives:

1) Participants will be able to define and understand the nature of stress.

2) Participants will be able to recognize the importance of perception as it relates to stress.

3) Participants will become familiar with various theories and concepts dealing with stress.
4) Participants will be able to identify the impact of stress in a physical, emotional and behavioral sense.

5) Participants will be able to identify ineffective coping strategies and understand why they are inadequate.

6) Participants will be able to list the criteria for effective coping strategies.

7) Participants will be able to understand the difference between distancing and confronting strategies.

8) Participants will be able to understand the concept of matching coping strategies with stressors and will be able to match their own stressors with appropriate coping strategies.

9) Participants will be able to design and implement a personal plan for better stress management.

The Life Experiences Survey (LES).

The LES (See Appendix B, p. 63) was developed by Sarason and Associates at the University of Washington. It was designed to eliminate certain shortcomings of previous life stress and change measures and allows for three separate measures: overall individualized ratings of the impact of events, separate assessment of positive life experiences, and separate assessment of negative life experiences.

The format of the LES asks subjects to rate separately the desirability and impact of life events they have encountered. They are asked to indicate which events were experienced in the last 0-6 months and which were experienced in the last 7-12 months. They are asked to indicate whether they
experienced the event as positive or negative as well as their perceived impact of the event. Each item is scored on a 7 point scale ranging from extremely negative (-3) to extremely positive (+3). Summing the impact of those events given a positive rating provides the positive change score. The sum of the ratings of those events given a negative rating yields the negative change score. Adding these two values gives the total change score which represents the total amount of perceived change, both desirable and undesirable, experienced by the subject within the past year.

Reliability of the LES.

A number of studies have been completed on the Life Experiences Survey which suggest that this instrument possesses sufficient reliability for the negative and total scores and in fact correlates with a variety of relevant dependent measures. It has been substantiated that life events result in psychological impairment not by themselves but when an event is perceived as stressful or undesirable in a negative sense. Evidence has been found to suggest that even positive events have an impact on physical well-being. Thus it was concluded that because individuals perceive events differently it is important to individualize the ratings of the desirability of events. (Sarason, et al, 1978).

The first study conducted on the LES investigated the possibility of differences in response due to sex and sought to obtain normative data (Sarason, et al, 1978). In this test of 345 college students (N=174 for males and N=171 for females), Sarason found no significant difference between males and females on any of the three life change measures. Results of this and other subsequent studies also concluded that the positive and negative life
change scores on the LES are largely uncorrelated.

Two test-retest reliability studies were done on the LES using subjects from undergraduate psychology courses. There was a 5-6 week time interval between the tests. In the first study there were 34 subjects, and in the second study there were 55 subjects. Results were scored for positive, negative and total life change scores and are reported below.

<table>
<thead>
<tr>
<th></th>
<th>Positive Change Score</th>
<th>Negative Change Score</th>
<th>Total Change Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Study 1</td>
<td>.19</td>
<td>.56</td>
<td>.63</td>
</tr>
<tr>
<td>Study 2</td>
<td>.53</td>
<td>.88</td>
<td>.64</td>
</tr>
</tbody>
</table>

Researchers concluded that these studies suggest the LES is moderately reliable when negative and total change scores are considered. The greater likelihood of positive changes in the time interval considered in part accounts for the lower reliability estimates for the positive change scores. It was also noted that test-retest reliability coefficients found with instruments of this type are likely to underestimate reliability.

In a third smaller study (N=12) conducted later by Sarason with a time interval of eight weeks the following results were found.

<table>
<thead>
<tr>
<th></th>
<th>Positive Change Scores</th>
<th>Negative Change Scores</th>
<th>Total Change Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>.61(p &lt; .05)</td>
<td>.72(p &lt; .01)</td>
<td>.82(p &lt; .001)</td>
</tr>
</tbody>
</table>

Validity Studies on the LES.

The following premise was used in determining the validity of the LES: To the extent that the LES measures life stress, its scores should correlate with
relevant personality indices. Sarason et al, (1978) have conducted numerous studies which test this premise.

In one study the LES was correlated with the State-Trait Anxiety Inventory and Grade Point Average (G.P.A.). Total and negative change scores were found to correlate significantly and in a positive direction with state and trait anxiety ($p < .01$). Findings were the same with both college students and naval personnel. A negative correlation was found between the LES and GPA.

In a subsequent study investigating the relationship between the LES and personal maladjustment the LES and the Psychological Screening Inventory were administered to 75 college students. Results suggest a relationship between negative change and personal maladjustment. A significant correlation was also found between extraverted subjects and positive life change.

In a study utilizing the Beck Depression Inventory and the LES a significant relationship was found between negative change scores on the LES and scores on the Beck Depression Inventory.

The LES as Compared with the SRE.

A relationship between negative life change as assessed by the LES and problems of a psychological nature was found in a study involving college students receiving treatment for psychological problems in a college counseling center. It was predicted that the LES negative change score would be more predictive of dependent measures than the Schedule of Recent Experiences (SRE) (Holmes & Rahe, 1967). Scores on these two instruments were correlated with scores on the Beck Depression Inventory. The difference
between the correlation with the LES negative change score and the SRE score was significant, (t(66)=2.31, p < .05) supporting the notion of the superiority of the LES as a measure for negative change.

Conclusions.

Overall findings from studies involving the LES suggest that the LES is superior to the SRE in measuring negative life change because of the desirable/undesirable distinction it incorporates. It is the negative change measure that should be used from the LES if the purpose is to assess the degree of life stress.

Failure to find significant correlations between positive change and dependent measures is probably related to the lower reliability of these scores. It does not imply that positive change is unstressful.

There is a strong indication that because persons differ in perceptions of life events and capacity for handling life change that moderator variables need to be studied. The Stress Management Program designed for this study focuses on teaching subjects cognitive skills as they relate to a number of moderator variables such as developing effective support systems, using effective coping strategies, altering perceptions of stressors and matching coping strategies appropriately with stressors.

Procedures

A general announcement was made to VA employees that the Stress Management Program was to be offered. Interested employees were requested to submit their names. From this list 21 subjects were randomly selected for the program who constituted the experimental group. An
additional 21 subjects were randomly selected from the list to make up the control group.

All subjects were asked to report for 1 1/2 hours during which time the Stress Program Assessment Instrument (SPAI) and the LES were administered. The individuals administering these instruments were not involved in presenting the Stress Management Program. Instruments were coded and subjects' names did not appear on the instruments to insure anonymity of subjects. Following the pre test, the control group was excused and the experimental group remained for the Stress Management Program. The program lasted for two work days representing approximately 13 hours of instruction and interaction. Control group subjects participated in a Stress Management Program following the completion of this study; thus becoming a delayed control group.

Approximately one month later all subjects in both the experimental and control groups were reconvened and the post test consisting of the same two instruments, the SPAI and the LES, were administered again by the same individuals who administered them previously. Prior to the administration of the instruments the experimental group participants attended a follow-up session focusing on discussion and evaluation of how the skills and strategies learned in the Stress Management Program worked for them as well as identification of problems encountered in implementing the skills and strategies.

Data Analysis

Two major hypotheses were tested in order to determine if the research hypothesis could be accepted. Minor hypotheses were also tested to
determine intra-group differences. All hypotheses used the null form. The first series of hypotheses assessed mean differences within groups. The null hypotheses were:

There is no difference between pre and post test scores on the SPAI for the experimental group.

There is no difference between pre and post test mean scores on any of the three LES measures for the experimental group.

There is no difference between pre and post test mean scores on the SPAI for the control group.

There is no difference between pre and post test mean scores on any of the three LES measures for the control group.

The minor hypotheses focused on the pre-post test differences (change scores) on each scale (LES and SPAI) within each group (experimental and control). In Table 1 these differences are: $\bar{X}_1 - \bar{X}_2$, $\bar{X}_3 - \bar{X}_4$, $\bar{X}_5 - \bar{X}_6$, & $\bar{X}_7 - \bar{X}_8$. These are the mean differences and are represented in Table 1 under the heading: Diff. In addition to the differences being reported, the associated t-test and the level of probability were also reported.

Table 1

Prototype for Table 7: A Comparison of Pre and Post Test Scores Within Groups

<table>
<thead>
<tr>
<th>SCALE</th>
<th>Experimental Group</th>
<th>Control Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Means</td>
<td>$\bar{X}_1$</td>
<td>$\bar{X}_5$</td>
</tr>
<tr>
<td></td>
<td>$\bar{X}_2$</td>
<td>$\bar{X}_6$</td>
</tr>
<tr>
<td></td>
<td>$\bar{X}_1 - \bar{X}_2$</td>
<td>$\bar{X}_3 - \bar{X}_4$</td>
</tr>
<tr>
<td></td>
<td>$\bar{X}_3 - \bar{X}_4$</td>
<td>$\bar{X}_5 - \bar{X}_6$</td>
</tr>
<tr>
<td></td>
<td>$\bar{X}_7 - \bar{X}_8$</td>
<td>$\bar{X}_7 - \bar{X}_8$</td>
</tr>
</tbody>
</table>

*Diff.=change score  ** Prob.=probability

The first major hypothesis tested the differences between the experimental and control group mean change scores for each of the two scales (LES and SPAI). The null hypothesis was: There is no difference in pre to post
test change scores between the experimental and control groups either the LES measures or the SPAI. The data for this analysis originates from Table 1 except that this analysis is the test is between the two groups. (See Table 2)

**Table 2**

Prototype for Table 8:

Differences Between Experimental and Control Group

<table>
<thead>
<tr>
<th>Mean Change Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SCALE</strong></td>
</tr>
<tr>
<td>LES</td>
</tr>
<tr>
<td>SPAI</td>
</tr>
</tbody>
</table>

*From Table 1

The second major hypothesis tested the significance of the difference between the correlations of the experimental and control group scores. The null hypotheses was as follows: There is no correlations between LES measures and the SPAI for either the experimental group or the control group. There is no difference between the correlations of experimental and control group scores on any of the measures. The signifiance (zero-order) of each independent correlation (Q) was also determined. The correlations were computed between the LES change scores and the SPAI change scores for each group. (See Table 3)
Table 3
Prototype for Table 9: SPAI and LES Correlations and Correlation Differences for Both Experimental and Control Groups

<table>
<thead>
<tr>
<th>Scale</th>
<th>Experimental</th>
<th>Control</th>
<th>Differences Between Correlations</th>
<th>z</th>
</tr>
</thead>
<tbody>
<tr>
<td>LES Positive</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LES Negative</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LES Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The series of minor hypotheses were tested utilizing a t-test for correlated means to determine if there were within group differences in means.

The first major hypothesis was tested utilizing a t-test for independent means to determine if the between group means differ significantly from each other. The second hypothesis was tested utilizing a t-test with the Pearson Product Moment Correlation Coefficient to determine if there were correlations between the LES scores and SPAI.

The level of significance used was .10. Previous studies utilizing the LES have generally utilized a significance level .001 to .05. It was discovered that with instruments such as the LES there is a tendency to underestimate relationships. For this reason the alpha level of .10 was chosen. To set the level any lower runs the risk of underestimating the relationships being tested.
CHAPTER IV

ANALYSIS AND INTERPRETATION OF DATA

Nature of the Measurement Instruments

The Stress Program Assessment Instrument (SPAI) was designed specifically to measure the degree of cognitive knowledge about stress and stress management that a person has acquired. It is based upon the information and coping strategies taught in the stress management workshops. It is a fairly straightforward instrument with 35 questions in a four distractor format. One point is given for each correct answer. Possible scores on the SPAI range from 0 to 35 inclusive.

The Life Experiences Survey (LES) is a much more complicated instrument. It contains a listing of 47 life experiences with space for subjects to write in three additional life experiences. Subjects are asked to rate each life experience which they encountered in the past year on a scale from -3 to +3 inclusive and are asked to indicate whether the event was experienced 0 to 6 months ago or 7 to 12 months ago.

Thus three scores are obtained: a positive score, resulting from adding all events rated with a positive number; a negative score, resulting from adding all events rated with a negative number; and a total score, resulting from adding the negative and positive scores. Positive scores range from 1 to 150 inclusive. Negative scores range from -1 to -150 inclusive and total scores range from -150 to 150 inclusive.

While data were collected and reported on all three LES scores it should be noted that only the negative and total scores were found to have reliability. The value of the positive score lies not in itself alone, but in how
it balances with the negative score to impact the total score.

Studies conducted with the LES seem to indicate that it is the negative change measure that should be used for the purpose of assessing the degree of life stress. Recent studies also seem to suggest that while a high degree of negative stress has a negative impact both physically and psychologically on the individual, a high degree of positive stress, while it may not have a negative psychological impact, does, in fact, have a negative physical impact on the individual.

The implication is that particular attention should be paid to the negative LES score. The physical and psychological impact of stress becomes lower as this score approaches zero. Also while some degree of positive stress may be desirable from a psychological point of view, the individual experiences less negative physical impact as these positive scores approach 0.

A Comparison of Pre and Post Test Scores Within Groups

The first set of hypotheses focused on the change scores within each group. Mean scores and standard deviations on the LES positive, negative and total scores and on the SPAI score for the experimental group and control group are reported in Tables 4 and 5 respectively. The change score means and standard deviations for both groups are reported in Table 6.
### TABLE 4
Mean Scores and Standard Deviations for Pre and Post Test Scores, Experimental Group

<table>
<thead>
<tr>
<th>Scores</th>
<th>Pre Test</th>
<th>Post Test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Standard Deviation</td>
</tr>
<tr>
<td>LES positive</td>
<td>6.52</td>
<td>5.11</td>
</tr>
<tr>
<td>LES negative</td>
<td>-10.95</td>
<td>10.66</td>
</tr>
<tr>
<td>LES total</td>
<td>-4.43</td>
<td>11.10</td>
</tr>
<tr>
<td>SPAI</td>
<td>20.24</td>
<td>5.43</td>
</tr>
</tbody>
</table>

### TABLE 5
Mean Scores and Standard Deviations for Pre and Post Test Scores, Control Group

<table>
<thead>
<tr>
<th>Scores</th>
<th>Pre Test</th>
<th>Post Test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Standard Deviation</td>
</tr>
<tr>
<td>LES positive</td>
<td>8.81</td>
<td>9.26</td>
</tr>
<tr>
<td>LES negative</td>
<td>-10.24</td>
<td>7.89</td>
</tr>
<tr>
<td>LES total</td>
<td>-1.43</td>
<td>12.67</td>
</tr>
<tr>
<td>SPAI</td>
<td>20.10</td>
<td>3.80</td>
</tr>
</tbody>
</table>

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TABLE 6
Means Change Scores and Standard Deviations for Experimental and Control Groups

<table>
<thead>
<tr>
<th>Scores</th>
<th>Experimental Group</th>
<th>Control Group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Standard Deviation</td>
</tr>
<tr>
<td>LES positive</td>
<td>-.62</td>
<td>5.60</td>
</tr>
<tr>
<td>LES negative</td>
<td>2.71</td>
<td>7.15</td>
</tr>
<tr>
<td>LES total</td>
<td>2.00</td>
<td>8.91</td>
</tr>
<tr>
<td>SPAI</td>
<td>6.29</td>
<td>4.10</td>
</tr>
</tbody>
</table>

A complete comparison of pre and post test scores within each group is contained in Table 7.

In the experimental group the LES scores all decreased as desired from the pre test to the post test. The decrease in the positive and total LES scores was not significant at the .10 level but the negative LES scores did decrease significantly with a probability of .0998. This may mean that the workshop experience was helpful to the experimental group in moderating their degree of life stress.

The SPAI scores for the experimental group increased very significantly with a probability beyond .0000, indicating that the workshop was successful in imparting the desired knowledge and information concerning stress and coping skills.
### Table 7

A Comparison of Pre and Post Test Scores Within Groups

<table>
<thead>
<tr>
<th>Scale</th>
<th>Experimental Group</th>
<th>Control Group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Means</td>
<td>Means</td>
</tr>
<tr>
<td></td>
<td>Post</td>
<td>Pre</td>
</tr>
<tr>
<td>LES Positive Score</td>
<td>5.90</td>
<td>6.52</td>
</tr>
<tr>
<td>LES Negative Score</td>
<td>-8.24</td>
<td>-10.95</td>
</tr>
<tr>
<td>LES Total Score</td>
<td>-2.43</td>
<td>-4.43</td>
</tr>
<tr>
<td>SPAI Score</td>
<td>26.52</td>
<td>20.24</td>
</tr>
</tbody>
</table>
level of significance.

In the control group the LES positive score increased significantly with a probability of .0893. This can probably be attributed to the fact that the LES positive pre test score for the control group was considerably higher (8.81) than that for the experimental group (6.52) while the post test positive scores for both groups were fairly close (5.90 for the experimental group and 5.71 for control group). The major difference then was on the pre test rather than on the post test. The trend was for most pre test scores to be quite similar for both groups, except for the LES positive score.

The control group SPAI scores increased but not as dramatically as in the experimental group. The difference nonetheless was significant at the .0260 level of probability. This could be due in large part to the sensitizing effect of the test as well as to the fact that this was a delayed control group. Control group participants were highly motivated to deal more effectively with their stress as evidenced by their willingness to participate in the study. The pre test may well have caused them to read and study about stress on their own.

Differences Between Experimental and Control Group Mean Change Scores

One of the major hypotheses of the study focused on the differences between the experimental and control group mean change scores for the three LES scores and the SPAI score. Table 8 outlines these results.
None of the differences between the groups on any of the three LES scores was significant at the .10 level, upholding the null hypothesis of no difference between experimental and control group LES mean change score differences. Thus, participation in the stress management workshop was not found to create a significant difference between the groups in the way subjects perceived their stress levels. There are a number of factors which could account for this result. Perhaps one month was not long enough for experimental group participants to integrate their newly acquired knowledge into their lifestyles. It is also possible that the nature of the stressors being experienced did not lend itself to a change in perception even if knowledge and coping skills increased. For example, the perceived impact of the death of a spouse may not change even if one learned to cope better with the experience. However, the perceived impact of a stressor such as a change of residence might be more likely to change as a result of learning new coping skills.

The difference between the experimental and control groups' change scores on the SPAI test pre to post was significant at the .001 level, allowing
the null hypothesis of no difference between experimental and control group SPAI mean change scores to be rejected. It should be noted that pre to post scores on the SPAI did increase significantly within both groups. Pre test mean scores were very close (20.24 for the experimental group and 20.10 for control group). The experimental group showed a considerably higher gain on the post test (26.52 as compared with a mean post test score of 22.05 for the control group). These results indicate that while both groups demonstrated increased knowledge of stress and coping skills on the post test, a much more significant degree of significant learning took place in the workshop resulting in the higher change scores for the experimental group.

Difference Between Correlations of Experimental and Control Group Scores

If increased knowledge about stress and coping skills has a healthy or positive impact on stress levels a higher score on the SPAI should cause the LES score to approach zero. It would be desirable to increase scores on the negative and total scores and to decrease scores on the positive measure. This creates somewhat of a problem, however, because while it is desirable to keep even positive stress to a minimum, at least as it concerns a physical impact, it must also be noted that a higher positive score could balance out a negative score resulting in a more acceptable total score. Thus, as the final hypothesis (concerning the correlations between the LES scores and the SPAI score for each group) is considered, it is important to focus primarily (as Sarason suggests) on the negative LES score. Table 9 lists correlations for all scores, including difference scores.
Table 9 Lists Correlations for all Scores, Including Difference Scores.

<table>
<thead>
<tr>
<th>Score</th>
<th>SPAI Experimental</th>
<th>SPAI Control</th>
<th>Difference</th>
<th>z Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LES positive</td>
<td>.0613</td>
<td>.0404</td>
<td>.0613</td>
<td>.1839</td>
</tr>
<tr>
<td>LES negative</td>
<td>-.2347</td>
<td>.0014</td>
<td>-.2347</td>
<td>-.7041</td>
</tr>
<tr>
<td>LES total</td>
<td>-.1786</td>
<td>.0252</td>
<td>-.1786</td>
<td>-.5359</td>
</tr>
</tbody>
</table>

*Note: to attain significance at the .10 level the z value must exceed 1.645. Therefore none of these difference scores was found to be significant at the .10 level.

An analysis of the correlational data does not lead to any conclusive results. All correlation coefficients are very low order coefficients. None of the correlations or correlational differences were significant at the .10 level, and, except for the control group LES negative and total scores none of the correlations are in the desired direction.

These results could, of course, mean that there is not, in fact, a correlation between knowledge about stress and coping skills, and perceived levels of stress. It is probably more likely that the LES was not sensitive enough to assess life changes and this lack of sensitivity had a dampening effect on the correlation with the SPAI. It is possible that physiological tests, for example, might have shown more sensitivity in determining this correlation.
CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

This study has focused on assessing the impact of a cognitively-oriented stress management program on participants' perception of their stress levels. After an extensive review of relevant literature, a stress management workshop was designed incorporating four major components: 1) becoming aware of stress and its effects 2) assessing personal responses to stress 3) learning effective coping strategies, and 4) designing a personal stress management program.

Two assessment instruments were utilized. The Stress Program Assessment Instrument (SPAI), a cognitive test of knowledge about stress and coping strategies utilizing a multiple choice, four-distractor format, was designed to assess participants level of cognitive knowledge. It contained 35 questions, and possible scores range from 0-35.

The Life Experiences Survey (LES) (Sarason et al. 1978) was used to assess participants' perceptions of their stress levels. It was designed to eliminate certain shortcomings of previous life stress and change measures by allowing for three separate measures; 1) overall individualized ratings of the impact of events, 2) separate assessment of positive life experiences, and separate assessment of negative life experiences. It is the negative change measure on the LES which is the most useful in assessing the degree of life stress.

Forty-two subjects participated in the study. Of these, 21 comprised the experimental group and 21 made up the delayed control group. The two
instruments were administered as a pre test to all 42 participants together. Following the pre test the experimental group went through the stress management workshop. The post test, consisting of the same two instruments, was then offered again to all 42 subjects together.

The null hypotheses were as follows:

1) There is no difference between pre and post test mean scores on the three LES measures or on the SPAI within either the experimental or control group.

2) There is no difference in pre to post test change scores between the experimental and control groups for either the LES measures or the SPAI.

3) There is no correlation between LES measures and the SPAI for either the experimental or control groups.

4) There is no difference between the correlations of experimental and control group scores on any of the measures.

While no significant differences were found between the correlations of experimental and control group scores, the within group LES negative scores did decrease significantly at the .10 level pre to post allowing the null hypothesis of no difference between pre and post test mean scores on the LES negative measure for the experimental group to be rejected.

The null hypothesis of no significant difference in the change scores on the SPAI pre to post was able to be rejected for both the experimental and control groups. However, the significance was much greater for the experimental group.

This evidence suggests that the workshop did increase cognitive knowledge of stress and coping ability while positively altering perceptions of
stress levels for the experimental group, and provides a rationale for continuing to offer the stress management workshops.

Conclusions

The study demonstrated conclusively that the stress management workshop was highly effective in increasing participants' knowledge of stress and coping skills. The results also show that taking part in such a study, even as a delayed control group participant, significantly heightened awareness and knowledge of stress. This phenomenon suggests that simply focusing on or paying attention to the stress in one's life can increase knowledge and awareness of stress, while participating in the stress management workshop increases knowledge even more dramatically.

One other significant finding was that the LES negative score did decrease significantly from the pre to the post test for the experimental group. Thus it appears that the stress management workshop had a positive impact in significantly lowering the LES negative score for the experimental group. Since it is the negative score which is the best measure of the degree of life stress, this finding is especially important. It should be noted that the LES negative score for the control group did not change significantly pre to post. The implication is that becoming more aware of stress and learning specific techniques for coping more effectively with stress do indeed positively change perceptions of stress. This is strong evidence to support continuing to offer stress management workshops.

The fact that there was no significant difference on the LES changes scores on any of the scales between the control and experimental groups is probably best accounted for by the factors already discussed in the previous
chapter: the likelihood of one month not being a sufficient amount of time to integrate and implement new learning, and the nature of stressors experienced by participants in the past year. It might have been more helpful to monitor the progress of participants over a longer period of time and to select the stressors to be analyzed on the basis of how amenable they might be to a change in perceived impact.

It is important to note that there was a highly significant difference in the change scores on the SPAI between the experimental and control groups. It is especially important in view of the fact that within group change scores on the SPAI were significant for both groups. Thus, while simply focusing on stress increases knowledge and awareness of stress and coping abilities, participating in the stress management workshop had a very dramatic impact on subjects' knowledge of stress and coping abilities. This result coupled with the finding that the experimental groups' perception of negative stress levels was significantly lowered suggests that the workshop should continue to be offered to VA medical center staff.

These results demonstrate that two criteria were met which can moderate the impact of stressors: learning coping strategies and changing the perception of the stressor. The study did not provide a means to assess a third criterion, having a good support system, although the workshop itself did address this issue. Participant feedback indicated that the workshop motivated people to assess and begin working to improve their support systems where necessary. It also seemed that relationships which developed during the workshop positively enhanced some participants' support systems. Thus, while it cannot be proven empirically in this study, subjective evidence suggests that support systems may have been improved as a result of the
workshop further strengthening the rationale for continuing to offer the stress management workshop and suggesting that further studies might include measures concerning participants' support systems.

The fact that no significant differences were found between the correlations of experimental and control group scores suggests that perhaps the LES is not sufficiently sensitive and that this restriction will lower these correlations. The implication could be drawn that perhaps measurement instruments of a different nature should be considered for future research.

Recommendations

It is recommended that the stress management program continue to be offered to VA medical center staff. The study clearly demonstrates that the workshop significantly increases knowledge of stress and coping skills. Further study is needed to assess the impact of this increased knowledge on how effectively subjects deal with stress.

It is suggested that physiological measures such as blood pressure and/or blood cholesterol levels be considered as measures to be studied. Such measures would likely provide more definitive data on the impact of the workshop and would allow for a substantially more in depth assessment and study of the relationship between participating in a stress management workshop and the physical impact of stress.

The development of new instruments to assess coping ability such as the Coping Resources Inventory (Matheny, 1983) will permit coping skills to be adequately assessed and used as a measure. The Coping Resources Inventory (Matheny, 1983) is currently being tested for reliability and validity and promises to be a very useful instrument. Assessing coping ability is important.
in the study of the effectiveness of stress management. As the literature indicates, coping skills are a very critical element in effectively dealing with stress. Also, as Seyle (1974) suggests, accurate assessment of an individual's coping ability is essential to the process of managing stress effectively by not overtaxing or underutilizing that individual's adaption energy.

Further study on the concept of perception and its relationship to stress is indicated. Such a study would need to focus on such issues as life style, values and beliefs, and developing a view of the world which minimizes the impact of stress. It would examine such stress producing attitudes as: 1) I must be perfect, 2) Everyone must love me, 3) Why does this have to happen to me? and 4) I can't help it, it is just the way I am. Because stress is, for the most part, a physiological and psychological response to mental activity, the most powerful source of stress is the mind or perhaps more accurately the state of mind. Nuernberger (1981) believes that stress is a direct consequence of how we define our personal relationship to the world. A study focusing on identifying and developing such relationships which are healthy, growth producing, and effective in moderating the negative impact of stress is clearly indicated.
APPENDICES
Appendix A
Stress Management Workshop Handouts
STRESS MANAGEMENT MODEL

*FUNNELING OR FILTERING SYSTEM

*STRESSORS

BELIEF SYSTEM PERCEPTION

*INDIVIDUAL CHOICE

POINTS at which stress can be impacted
STRESS - PHYSICAL

1. Backache
2. Headache
3. Ulcers
4. Digestive problems
5. Tiredness
6. Tension in neck, shoulders
7. Low energy
8. Loss of appetite
9. Increase in appetite
10. Upset stomach
11. Not as alert
12. Lessening of concentration
13. Shakey
14. Feet, legs, arms ache
15. Heart disease
16. Cancer
17. Insomnia
18. Asthma
19. General feeling of tightness, agitation
20. Tics
21. Tightness in throat
22. Allergies
23. Increased pulse, heartbeat
STRESS-EMOTIONAL

1. Anxious
2. Tense
3. Short tempered
4. Boredom
5. Depression
6. Dullness, lack of interest
7. Fear
8. Restlessness
9. Loss of humor
10. Listlessness
11. Loss of spontaneity
12. Frustrated
13. Desperation
14. Fatigue
15. Defenseless
16. Defensive
17. Angry
18. Loss of self-worth
19. Unsure
20. Confused
21. Hostile
22. Lonely
23. Inadequate
24. Guilt
As you can see, each scale below is composed of a pair of adjectives or phrases separated by a series of horizontal lines. Each pair has been chosen to represent two kinds of contrasting behavior. Each of us belongs somewhere along the line between the two extremes. Since most of us are neither the most competitive nor the least competitive person we know, put a check mark where you think you belong between the two extremes.

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Doesn't mind leaving things temporarily unfinished</td>
<td></td>
<td>Must get things finished once started</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Calm and unhurried about appointments</td>
<td></td>
<td>Never late for appointments</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Not competitive</td>
<td></td>
<td>Highly competitive</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Listens well, lets others finish speaking</td>
<td></td>
<td>Anticipates others in conversation (nods, interrupts, finishes sentences for the other)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Never in a hurry, even when pressured</td>
<td></td>
<td>Always in a hurry</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Able to wait calmly</td>
<td></td>
<td>Uneasy when waiting</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Easygoing</td>
<td></td>
<td>Always going full speed ahead</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Takes one thing at a time</td>
<td></td>
<td>Tries to do more than one thing at a time, thinks about what to do next</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Slow and deliberate in speech</td>
<td></td>
<td>Vigorous and forceful in speech (uses a lot of gestures)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Concerned with satisfying himself, not others</td>
<td></td>
<td>Wants recognition by others for a job well done</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Slow doing things</td>
<td></td>
<td>Fast doing things (eating, walking, etc.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Easygoing</td>
<td></td>
<td>Hard driving</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. Expresses feelings openly</td>
<td></td>
<td>Holds feelings in</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. Has a large number of interests</td>
<td></td>
<td>Few interests outside work</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. Satisfied with job</td>
<td></td>
<td>Ambitious, wants quick advancement on job</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
16. Never sets own deadlines  _ _ _ _ _ _ Often sets own deadlines
17. Feels limited responsibility _ _ _ _ _ _ Always feels responsible
18. Never judges things in terms of numbers _ _ _ _ _ _ Often judges performance in terms of numbers (how many, how much)
19. Casual about work _ _ _ _ _ _ Takes work very seriously (works weekends, brings work home)
20. Not very precise _ _ _ _ _ _ Very precise (careful about detail)

SCORING: Assign a value from 1 to 7 for each score. Total them up.
The categories are as follows:

Total score=110-140: Type A1 If you are in this category, and especially if you are over 40 and smoke, you are likely to have a high risk of developing cardiac illness.

Total score=80-109: Type A2 You are in the direction of being cardiac prone, but your risk is not as high as the A1. You should, nevertheless, pay careful attention to the advice given to all Type A's.

Total score=60-79: Type AB You are an admixture of A and B patterns. This is a healthier pattern than either A1 or A2, but you have the potential for slipping into A behavior and you should recognize this.

Total score=30-59: Type B2 Your behavior is on the less-cardiac-prone end of the spectrum. You are generally relaxed and cope adequately with stress.

Total score=0-29: Type B1 You tend to the extreme of non-cardiac traits. Your behavior expresses few of the reactions associated with cardiac disease.

This test will give you some idea of where you stand in the discussion of Type A behavior that follows. The higher your score, the more cardiac prone you tend to be. Remember, though, even B persons occasionally slip into A behavior, and any of these patterns can change over time.
<table>
<thead>
<tr>
<th>RANK</th>
<th>LIFE EVENT</th>
<th>LCU VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Death of Spouse</td>
<td>100</td>
</tr>
<tr>
<td>2.</td>
<td>Divorce</td>
<td>73</td>
</tr>
<tr>
<td>3.</td>
<td>Marital separation</td>
<td>65</td>
</tr>
<tr>
<td>4.</td>
<td>Jail term</td>
<td>63</td>
</tr>
<tr>
<td>5.</td>
<td>Death of close family member</td>
<td>63</td>
</tr>
<tr>
<td>6.</td>
<td>Personal injury or illness</td>
<td>53</td>
</tr>
<tr>
<td>7.</td>
<td>Marriage</td>
<td>50</td>
</tr>
<tr>
<td>8.</td>
<td>Fired from job</td>
<td>47</td>
</tr>
<tr>
<td>9.</td>
<td>Marital reconciliation</td>
<td>45</td>
</tr>
<tr>
<td>10.</td>
<td>Retirement</td>
<td>45</td>
</tr>
<tr>
<td>11.</td>
<td>Change of health of family member</td>
<td>44</td>
</tr>
<tr>
<td>12.</td>
<td>Pregnancy</td>
<td>40</td>
</tr>
<tr>
<td>13.</td>
<td>Sex Difficulties</td>
<td>39</td>
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<tr>
<td>14.</td>
<td>Gain of a new family member</td>
<td>39</td>
</tr>
<tr>
<td>15.</td>
<td>Business readjustment</td>
<td>39</td>
</tr>
<tr>
<td>16.</td>
<td>Change in financial status</td>
<td>38</td>
</tr>
<tr>
<td>17.</td>
<td>Death of close friend</td>
<td>37</td>
</tr>
<tr>
<td>18.</td>
<td>Change to different line of work</td>
<td>36</td>
</tr>
<tr>
<td>19.</td>
<td>Change in number of arguments with spouse</td>
<td>35</td>
</tr>
<tr>
<td>20.</td>
<td>Mortgage over $10,000</td>
<td>31</td>
</tr>
<tr>
<td>21.</td>
<td>Foreclosure of mortgage or loan</td>
<td>30</td>
</tr>
<tr>
<td>22.</td>
<td>Change in responsibilities at work</td>
<td>29</td>
</tr>
<tr>
<td>23.</td>
<td>Son or daughter leaving home</td>
<td>29</td>
</tr>
<tr>
<td>24.</td>
<td>Trouble with in-laws</td>
<td>29</td>
</tr>
<tr>
<td>25.</td>
<td>Outstanding personal achievement</td>
<td>28</td>
</tr>
<tr>
<td>26.</td>
<td>Wife begins or stops work</td>
<td>26</td>
</tr>
<tr>
<td>27.</td>
<td>Begin or end school</td>
<td>26</td>
</tr>
<tr>
<td>28.</td>
<td>Change in living conditions</td>
<td>25</td>
</tr>
<tr>
<td>29.</td>
<td>Revision of personal habits</td>
<td>24</td>
</tr>
<tr>
<td>30.</td>
<td>Trouble with boss</td>
<td>23</td>
</tr>
<tr>
<td>31.</td>
<td>Change in work hours or conditions</td>
<td>20</td>
</tr>
<tr>
<td>32.</td>
<td>Change in residence</td>
<td>20</td>
</tr>
<tr>
<td>33.</td>
<td>Change in schools</td>
<td>20</td>
</tr>
<tr>
<td>34.</td>
<td>Change in recreation</td>
<td>19</td>
</tr>
<tr>
<td>35.</td>
<td>Change in church activities</td>
<td>19</td>
</tr>
<tr>
<td>36.</td>
<td>Change in social activities</td>
<td>18</td>
</tr>
<tr>
<td>37.</td>
<td>Mortgage or loan less than $10,000</td>
<td>17</td>
</tr>
<tr>
<td>38.</td>
<td>Change in sleeping habits</td>
<td>16</td>
</tr>
<tr>
<td>39.</td>
<td>Change in number of family get-togethers</td>
<td>15</td>
</tr>
<tr>
<td>40.</td>
<td>Change in eating habits</td>
<td>15</td>
</tr>
<tr>
<td>42.</td>
<td>Christmas</td>
<td>12</td>
</tr>
<tr>
<td>43.</td>
<td>Minor violations of the law</td>
<td>11</td>
</tr>
</tbody>
</table>

450 Units over 2 years-90% will become ill in the near future.
300 Units over 2 years-66% will become ill in the near future.
150 Units over 2 years-33% will become ill in the near future.
STRESS WORKSHOP

COPING SCALE DIRECTIONS

For each question, check yes or no. Give a yes or no if at all possible. If you feel that you do not know the answer, or if it is one half yes and one half no, check both yes and no.

There are no right or wrong answers, and a "high" score is not necessarily better than a "low" score and a "low" score is not necessarily better than a "high" score.

Part A

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Do people who know you well think you get upset easily?</td>
<td></td>
</tr>
<tr>
<td>2. Do people who know you well think you are stubborn?</td>
<td></td>
</tr>
<tr>
<td>3. Do people who know you well think you understand other people's points of view and accept them the way they are?</td>
<td></td>
</tr>
<tr>
<td>4. Do people who know you well think that when you get mad you get over it quickly?</td>
<td></td>
</tr>
<tr>
<td>5. Do people who know you well think you overcome problems easily?</td>
<td></td>
</tr>
<tr>
<td>6. Do people who know you well think you are reliable and responsible in meeting your financial obligations?</td>
<td></td>
</tr>
<tr>
<td>7. Do people who know you well think you have continued to mature and grow emotionally as you have gotten older?</td>
<td></td>
</tr>
<tr>
<td>8. Do you think the way you adjust to life can contribute to getting sick?</td>
<td></td>
</tr>
<tr>
<td>9. Do you think that changing your life in some way might make it easier to get well once you get sick?</td>
<td></td>
</tr>
<tr>
<td>10. If you were sick and were told to treat yourself with something that you did not understand and was difficult, but which no one would know about if you did not do it, would you do it?</td>
<td></td>
</tr>
</tbody>
</table>
STRESS WORKSHOP
COPING SCALE

Part B

Yes  No  1. Do you have good health?
Yes  No  2. Do you think you had a satisfying religious education?
Yes  No  3. Do you think your father was supportive and understanding?
Yes  No  4. Do you think your mother was supportive and understanding?
Yes  No  5. Do you think those close to you provide the emotional support you need?
Yes  No  6. Do you think your housing is a problem?
Yes  No  7. Are you satisfied with your occupation?
Yes  No  8. Are you satisfied with your working conditions?
Yes  No  9. Is your income satisfactory?
Yes  No  10. Have you set goals for the future that satisfy you and are realistic?
STRESSORS

1. Loss—real or perceived of:
   loved one
   job
   security
   money
   precious possessions
   health
   arm, leg, etc.
   respect
   identity
   etc.

2. Financial concern

3. Overwork

4. Speaking in front of others

5. Having to face a challenge

6. Malfunction of something which keeps you from performing an important task, (example, car)

7. Demands or expectations put on you by others

8. Physical threat

9. Illness of someone close to you

10. Personal difficulties of someone close to you

11. A certain person

12. Performing certain tasks

13. Competition

14. Overweight

15. Relationships

16. Moving

17. Birth of child

18. Dual career family

19. Child leaving home

20. Dieting
<table>
<thead>
<tr>
<th>Coding Your Stressors</th>
<th>List of Stressors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1.</td>
</tr>
<tr>
<td></td>
<td>2.</td>
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<td></td>
<td>3.</td>
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<td></td>
<td>4.</td>
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<td></td>
<td>5.</td>
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<td></td>
<td>6.</td>
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<td></td>
<td>7.</td>
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<td></td>
<td>8.</td>
</tr>
<tr>
<td></td>
<td>9.</td>
</tr>
<tr>
<td></td>
<td>10.</td>
</tr>
</tbody>
</table>

For the past year or more
I have experienced these

I experience these often

Depressed, Inactive
These make me feel tired,

Anxious or Stressed
These make me feel tense.

View this as stressful too
Most other people would

These
I could change or modify

I could escape these

These
I have no control of

And energy on these
I spend the most time

Better with this
I need to learn to cope
BEHAVIORAL RESPONSES TO STRESS
WHICH ARE NOT HELPFUL

1. Taking days off work or usual activities
2. Pick fights
3. Withdraw
4. Become hostile
5. Become defensive
6. Give up
7. Do a poor job
8. Become inactive
9. Take it out on someone, something else (kick the dog)
10. Breakdown
11. Become overbearing
12. Buying into someone else's stress
HELPFUL BEHAVIORAL RESPONSES TO STRESS

1. Relax
2. Avoid the stressor when appropriate
3. Physical exercise when appropriate
4. Pamper yourself
5. Change the environment
6. Eliminate the source of stress
7. Change your perception of the situation
8. Modify the behavior of the person causing the stress
I-Messages

An I-Message is a non-blameful description of a behavior or situation. It contains three parts:

1. A non-blameful description
2. The tangible effect of the behavior
3. The feeling created by the behavior

Example:

Your son borrowed the car last night and neglected to refill the gas tank.

I-Message: I get angry when I find the car empty in the morning, because when I have to take extra time to stop for gas, I'm late for work.

Method 3 Problem Solving Process

1. Define the problem. Do this in terms of needs.
   A. State the problem in non-blameful terms. Send I-Messages.
   B. Try to verbalize other person's side of the conflict. Active listen.

2. Generate Possible Solutions:
   A. Brainstorm: Be "creative, even silly"
   B. Active listen
   C. No evaluations allowed
   D. If things bog down, state the problem again

3. Evaluate Solutions:
   A. Be honest
   B. Active listen

4. Decide on Mutually Acceptable Solution
   A. Don't try to persuade or push a solution on the other.
   B. Make sure that everyone understands the agreed upon solution. Writing it down might be helpful.
   C. If no solutions seem acceptable, try redefining the problem. Maybe you haven't hit on the real problem.
5. Implement the Solution

   A. Decide **who does what when**.

   B. If **someone fails to carry out** his/her end of the agreement, **send an I-Message**.

   C. Don't fall into the trap of reminding the other to carry out his/her task. Each person must assume responsibility for his/her portion of the solution.

6. Evaluate the Solution

   A. **Modifications in decisions must be mutually agreed on**.

   B. **May need to return to step 1**.
I-MESSAGE EXERCISE

1. Jane works too slowly and holds others up.

2. Your boss doesn't tell you things you need to know.

3. Howard is invariably late for meetings.

4. Mary is curt and impolite in handling phone calls with clients.

5. A supervisor of another department won't cooperate with you.

6. Laura doesn't answer letters promptly.

7. Frank volunteers to do jobs and doesn't follow through.

8. Jan doesn't keep you informed of activities in her department.

9. Harry has an excessively high turnover rate in his work group.
Characteristics of the Non-Assertive Person

He confuses the goal of being liked with being respected.

He is conditioned to fears of being disliked or rejected.

He is unable to recognize the difference between being selfish in the bad sense and in the good sense.

He allows others to maneuver him into situations he doesn't want.

He is easily hurt by what others say and do.

He feels inferior because he is inferior. He limits his experiences and doesn't use his potential.

Characteristics of the Assertive Person

He acts in a way that shows he respects himself, is aware that he cannot always win, and accepts his limitations. He strives, in spite of the odds, to make the good try. Win, lose or draw, he maintains his self-respect.

He feels free to reveal himself: "This is me. This is what I feel, think and want."

He can communicate with people on all levels — strangers, friends, family. Communication is open, direct, honest and appropriate.

He has an active orientation to life. He goes after what he wants—in contrast to the passive person who waits for things to happen.
GLOSSARY OF SYSTEMATIC ASSERTIVE SKILLS

Broken Record—A skill that by calm repetition—saying what you want over and over again—teaches persistence without your having to rehearse arguments or angry feelings before hand, in order to be "up" for dealing with others.

Clinical effect after practice: Allows you to feel comfortable in ignoring manipulative verbal side traps, argumentative baiting, irrelevant logic, while sticking to your desired point.

Fogging—A skill that teaches acceptance of manipulative criticism by calmly acknowledging to your critic the probability that there may be some truth in what he says, yet allows you to remain your own judge of what you do.

Clinical effect after practice: Allows you to receive criticism comfortably without becoming anxious or defensive, while giving no reward to those using manipulative criticism.

Free Information—A skill that teaches the recognition of simple cues given by a social partner in everyday conversation to indicate what is interesting or important to that person.

Clinical effect after practice: Allows you to feel less shy in entering into conversation while at the same time prompting social partners to talk more easily about themselves.

Negative Assertion—A skill that teaches acceptance of your errors and faults (without having to apologize) by strongly and sympathetically agreeing with hostile or constructive criticism of your negative qualities.

Clinical effect after practice: Allows you to look more comfortably at negatives in your own behavior or personality without feeling defensive and anxious, or resorting to denial of real error, while at the same time reducing your critic's anger or hostility.

Negative Inquiry—A skill that teaches the active prompting of criticism in order to use the information (if helpful) or exhaust it (if manipulative) while prompting your critic to be more assertive, less dependent on manipulative ploys.

Clinical effect after practice: Allows you more comfortably to seek out criticism about yourself in close relationships while prompting the other person to express honest negative feelings and improve communication.

Self-Disclosure—A skill that teaches the acceptance and initiation of discussion of both the positive and negative aspects of your personality, behavior, lifestyle, intelligence, to enhance social communication and reduce manipulation.

Clinical effect after practice: Allows you comfortably to disclose aspects of yourself and your life that previously caused feelings of ignorance, anxiety, or guilt.

Workable Compromise—In using your verbal assertive skills, it is practical, whenever you feel that your self-respect is not in question, to offer a workable compromise to the other person. You can always bargain for your material goals unless the compromise affects your personal feelings of self-respect. If the end goal involves a matter of your self-worth, however, there can be no compromise.
CRITERIA FOR HELPFUL COPING STRATEGIES

To choose to actively deal with stress has a number of beneficial effects:

1. It discharges the energy created by the flight or fight response and channels it in positive directions.
2. It may divert our attention.
3. It creates a feeling of mastery and control and makes us feel better about ourselves and the situation.
4. Directed activity may change or influence the actual stressor or conditions that created the stress.
MATCHING COPING STRATEGIES WITH STRESSORS

DISTANCING: to deal with stressors you can't control:

Putting time, space, distance between you and the stressor.

A diverting technique.

Appropriate when:

1. you can't control the stressor
2. you can't change the stressor

Distancing techniques:

1. Relax
2. Avoid stressor
3. Physical exercise
4. Pamper yourself

CONFRONTING: to deal with stressors you can control:

Taking steps to change or modify the stressor in a helpful way.

Action-oriented.

Appropriate when:

1. You don't have to stay in a stressful situation
2. You are in a position of control
3. Modification of stressor is fitting, possible.

Confronting techniques:

1. Eliminate stressor
2. Change environment
3. Modify behavior of other
4. Change your perception

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<table>
<thead>
<tr>
<th>STRESSOR</th>
<th>COPING STRATEGY TO BE USED</th>
<th>SPECIFIC STEPS TO TAKE</th>
<th>DATES TO ACCOMPLISH BY</th>
<th>RESULTS, COMMENTS, FEEDBACK</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>
FEEDBACK FORM

STRESS MANAGEMENT WORKSHOP

1. How successful was your plan to cope more effectively with your stress?

2. As you worked on your stress what seemed to work particularly well for you?

3. As you worked on your stress what did not seem to be helpful?

4. Please indicate as best you can how you think this workshop will be helpful to you in the future.

5. Please share any additional comments about the workshop your experiences in coping with stress, or any other feedback you wish to give.
Appendix B
The Life Experiences Survey
The Life Experiences Survey

Listed below are a number of events which sometimes bring about change 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 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 suggest no impact either positive or negative. A rating of +3 would indicate an extremely positive impact.

### Section 1

<table>
<thead>
<tr>
<th>Event</th>
<th>0 to 6 mo</th>
<th>7 mo to 1 yr</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>extremely negative</td>
<td>moderately negative</td>
</tr>
<tr>
<td>1. Marriage</td>
<td>-3</td>
<td>-2</td>
</tr>
<tr>
<td>2. Detention in jail or comparable institution</td>
<td>-3</td>
<td>-2</td>
</tr>
<tr>
<td>3. Death of spouse</td>
<td>-3</td>
<td>-2</td>
</tr>
<tr>
<td>4. Major change in sleeping habits (much more or much less sleep)</td>
<td>-3</td>
<td>-2</td>
</tr>
<tr>
<td>5. Death of close family Member:</td>
<td>-3</td>
<td>-2</td>
</tr>
<tr>
<td>a. mother</td>
<td>-3</td>
<td>-2</td>
</tr>
<tr>
<td>b. father</td>
<td>-3</td>
<td>-2</td>
</tr>
<tr>
<td>c. brother</td>
<td>-3</td>
<td>-2</td>
</tr>
<tr>
<td>d. sister</td>
<td>-3</td>
<td>-2</td>
</tr>
<tr>
<td>e. grandmother</td>
<td>-3</td>
<td>-2</td>
</tr>
<tr>
<td>f. grandfather</td>
<td>-3</td>
<td>-2</td>
</tr>
<tr>
<td>g. other (specify)</td>
<td>-3</td>
<td>-2</td>
</tr>
<tr>
<td>6. Major change in eating habits (Much more or much less)</td>
<td>-3</td>
<td>-2</td>
</tr>
<tr>
<td>7. Foreclosure on mortgage or loan</td>
<td>-3</td>
<td>-2</td>
</tr>
<tr>
<td>8. Death of close friend</td>
<td>-3</td>
<td>-2</td>
</tr>
<tr>
<td>9. Outstanding personal achievement</td>
<td>-3</td>
<td>-2</td>
</tr>
<tr>
<td>10. Minor law violations (traffic tickets, disturbing the peace, etc.)</td>
<td>-3</td>
<td>-2</td>
</tr>
<tr>
<td>11. Male: Wife/girlfriend's pregnancy</td>
<td>-3</td>
<td>-2</td>
</tr>
<tr>
<td>12. Female: Pregnancy</td>
<td>-3</td>
<td>-2</td>
</tr>
<tr>
<td></td>
<td>0 mo</td>
<td>7 mo to 6 mo 1 yr</td>
</tr>
<tr>
<td>---</td>
<td>------</td>
<td>------------------</td>
</tr>
<tr>
<td>13. Changed work situation</td>
<td>extremely negative</td>
<td>moderately negative</td>
</tr>
<tr>
<td>(different work responsibility, major change in working conditions, working hours, etc.)</td>
<td>-3</td>
<td>-2</td>
</tr>
<tr>
<td>14. New job</td>
<td>-3</td>
<td>-2</td>
</tr>
<tr>
<td>15. Serious illness or injury of close family member:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. father</td>
<td>-3</td>
<td>-2</td>
</tr>
<tr>
<td>b. mother</td>
<td>-3</td>
<td>-2</td>
</tr>
<tr>
<td>c. sister</td>
<td>-3</td>
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<tr>
<td>d. brother</td>
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<td>e. grandfather</td>
<td>-3</td>
<td>-2</td>
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<tr>
<td>f. grandmother</td>
<td>-3</td>
<td>-2</td>
</tr>
<tr>
<td>g. spouse</td>
<td>-3</td>
<td>-2</td>
</tr>
<tr>
<td>h. other (specify)</td>
<td>-3</td>
<td>-2</td>
</tr>
<tr>
<td>16. Sexual difficulties</td>
<td>-3</td>
<td>-2</td>
</tr>
<tr>
<td>17. Trouble with employer (in danger of losing job, being suspended, demoted, etc.)</td>
<td>-3</td>
<td>-2</td>
</tr>
<tr>
<td>18. Trouble with in-laws</td>
<td>-3</td>
<td>-2</td>
</tr>
<tr>
<td>19. Major change in financial status (a lot better off or a lot worse off)</td>
<td>-3</td>
<td>-2</td>
</tr>
<tr>
<td>20. Major change in closeness of family members (increased or decreased closeness)</td>
<td>-3</td>
<td>-2</td>
</tr>
<tr>
<td>21. Gaining a new family member (through birth, adoption, family member moving in, etc.)</td>
<td>-3</td>
<td>-2</td>
</tr>
<tr>
<td>22. Change of residence</td>
<td>-3</td>
<td>-2</td>
</tr>
<tr>
<td>23. Marital separation from mate (due to conflict)</td>
<td>-3</td>
<td>-2</td>
</tr>
<tr>
<td>24. Major change in church activities (increased or decreased attendance)</td>
<td>-3</td>
<td>-2</td>
</tr>
<tr>
<td>25. Marital reconciliation with mate</td>
<td>-3</td>
<td>-2</td>
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<tr>
<td>26. Major change in number of arguments with spouse (a lot more or a lot less arguments)</td>
<td>-3</td>
<td>-2</td>
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<tr>
<td>Event</td>
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<td>7 mo</td>
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<tr>
<td>----------------------------------------------------------------------</td>
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<tr>
<td>27. Married male: Change in wife's work outside the home (beginning work, ceasing work, changing to a new job, etc.)</td>
<td>-3</td>
<td>-2</td>
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<tr>
<td>28. Married female: Change in husband's work (loss of job, beginning new job, retirement, etc.)</td>
<td>-3</td>
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</tr>
<tr>
<td>29. Major change in usual type and/or amount of recreation</td>
<td>-3</td>
<td>-2</td>
</tr>
<tr>
<td>30. Borrowing more than $10,000 (buying home, business, etc.)</td>
<td>-3</td>
<td>-2</td>
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<tr>
<td>31. Borrowing less than $10,000 (buying car, TV, getting school loan, etc.)</td>
<td>-3</td>
<td>-2</td>
</tr>
<tr>
<td>32. Being fired from job</td>
<td>-3</td>
<td>-2</td>
</tr>
<tr>
<td>33. Male: Wife/ girlfriend having abortion</td>
<td>-3</td>
<td>-2</td>
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<tr>
<td>34. Female: Having abortion</td>
<td>-3</td>
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<tr>
<td>35. Major personal illness or injury</td>
<td>-3</td>
<td>-2</td>
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<tr>
<td>36. Major change in social activities, e.g., parties, movies, visiting (increased or decreased participation)</td>
<td>-3</td>
<td>-2</td>
</tr>
<tr>
<td>37. Major change in living conditions of family (building new home, remodeling, deterioration of home, neighborhood, etc.)</td>
<td>-3</td>
<td>-2</td>
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<tr>
<td>38. Divorce</td>
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<td>39. Serious injury or illness of close friend</td>
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<td>40. Retirement from work</td>
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<tr>
<td>41. Son or daughter leaving home (due to marriage, college, etc.)</td>
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<tr>
<td>42. Ending of formal schooling</td>
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<tr>
<td>Experience</td>
<td>0 to 7 mo</td>
<td>6 mo to 1 yr</td>
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<tr>
<td>---------------------------------------------------------------------------</td>
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<tr>
<td>43. Separation from spouse (due to work, travel, etc.)</td>
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<td>44. Engagement</td>
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<td>45. Breaking up with boyfriend/girlfriend</td>
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<td>46. Leaving home for the first time</td>
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<td>47. Reconciliation with boyfriend/girlfriend</td>
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<tr>
<td>Other recent experiences which have had an impact on your life. List and rate.</td>
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<td>48.</td>
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<td>49.</td>
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Section 2: Student Only

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<th>Experience</th>
<th>0 to 7 mo</th>
<th>6 mo to 1 yr</th>
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<td>51. Beginning a new school experience at a higher academic level (college graduate school, professional school, etc.)</td>
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<td>52. Changing to a new school at same academic level (undergraduate, graduate, etc.)</td>
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<td>53. Academic probation</td>
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<td>54. Being dismissed from dormitory or other residence</td>
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<td>-2</td>
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<tr>
<td>55. Failing an Important exam</td>
<td>-3</td>
<td>-2</td>
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<tr>
<td>56. Changing a major</td>
<td>-3</td>
<td>-2</td>
</tr>
<tr>
<td>57. Failing a course</td>
<td>-3</td>
<td>-2</td>
</tr>
<tr>
<td>58. Dropping a course</td>
<td>-3</td>
<td>-2</td>
</tr>
<tr>
<td>59. Joining a fraternity/sorority</td>
<td>-3</td>
<td>-2</td>
</tr>
<tr>
<td>60. Financial problems concerning school (in danger of not having sufficient money to continue)</td>
<td>-3</td>
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</table>
Appendix C
Stress Program Assessment Instrument
Stress Program Assessment

1. Which of the following is not part of a good definition of stress?
   a) Stress is the non-specific response of the body to any demand made on it.
   b) It is our perception of events that make them stressful.
   c) The absence of stress is needed for a person to be healthy.
   d) A stressful situation must involve harm or loss, threat or challenge.

2. The most important factor in determining whether a situation is stressful is
   a) The seriousness of the situation.
   b) A person's perception of the situation.
   c) The frequency with which the situation occurs.
   d) Whether or not the situation was expected or came as a complete surprise.

3. Which of the following is not true?
   a) Stress denotes something either positive or negative.
   b) Stress is always negative.
   c) Eustress refers to good stress or that which is positive.
   d) Whether stress is positive or negative the biological response is the same.

4. Which is not one of the three generally accepted levels of stress (as identified by Dr. Rosalind Forbes)?
   a) under stress
   b) regular or balanced stress
   c) eustress or positive stress
   d) stress overload
5. Stress produces
    a) a chemical reaction within the body
    b) an increased level of blood cholesterol
    c) an increase in the blood sugar levels
    d) all of the above.

6. In recent research on tears and their relationship to stress Dr. William Frey discovered that
    a) crying is not particularly useful as a reaction to stress
    b) tears cried under stress have a different chemical make-up than those that are artificially induced
    c) too much crying drains the body of needed energy
    d) none of the above.

7. When the body is under stress
    a) the body's defenses for coping with disease and infection are diverted to coping with the stress making the body more susceptible to illness
    b) blood pressure is lowered
    c) all non essential body activities are increased
    d) none of the above

8. Who would be more susceptible to heart disease
    a) an A type personality
    b) a B type personality
    c) a C type personality
    d) personality type has no relationship to heart disease
9. Which are possible reactions to stress?
   a) the Flight or Fight Response
   b) the Possum Response
   c) both a & b
   d) neither a or b

10. Which is not true of the Flight or Fight Response?
    a) This is a basic, inborn reaction to stress.
    b) It is always possible to act upon this response.
    c) The average person experiences between 50 and 200 of these responses daily.
    d) Coronary disease can result from this response being stimulated too often.

11. Employee stress
    a) can be costly to both employee and employer.
    b) is needed to maintain production at appropriate levels.
    c) is higher among executives than their secretaries.
    d) all of the above.

12. Which of the following is not a part of the life diamond?
    a) job
    b) family
    c) leisure time interests
    d) sense of self
13. Which of the following is true?
   a) Young children do not experience stress.
   b) Between 50% and 75% of elementary school children are believed to be under stress.
   c) Children experience stress differently than adults.
   d) Competition has been found to be a good motivator for young children.

14. Stress in the family
   a) always increases when the mother works
   b) often carries over into other parts of people's lives
   c) can be generated by internal or external sources
   d) b and c

15. Burnout
   a) is caused by work-related frustrations and results in lower worker productivity and morale
   b) does not have predictable symptoms which are easily identified
   c) strikes less frequently in the helping professions
   d) a and b

16. Stress causes which of the following?
   a) physical symptoms
   b) emotional symptoms
   c) behavioral symptoms
   d) all of the above
17. The theory of life change states
   a) as much life change as possible should be avoided
   b) life change is not a significant factor in illness except if the
      change is negative
   c) too much life change over a short period of time can cause
      illness
   d) none of the above

18. The Bank Account Theory of stress
   a) deals with the concept of adaptation energy
   b) stresses the importance of coping skills
   c) relates to the cost-effectiveness of stress management
      programs
   d) a and b

19. Stressors fall into which of the following categories
   a) those we can control and those we cannot control
   b) those we must not control, and those which it is acceptable
      for us to control
   c) a and b
   d) none of the above

20. There are three points at which stress can be controlled. Which of the
    following is not one of the three?
    a) at the onset of the flight of fight response
    b) stressor
    c) individual
    d) the interaction between the individual and the stressor
21. The negative effects of stress are lessened by
   a) social support a person receives
   b) stress management techniques used by the person
   c) the individuals personal characteristics and belief system
   d) all of the above

22. In a time of crisis the most helpful element in dealing with stress is:
   a) knowing good stress management techniques
   b) being able to change your perception of the situation
   c) having a good support system
   d) being able to use confronting strategies well

23. Helpful coping strategies
   a) discharge the energy created by the flight or fight response
      and channel it in positive directions
   b) may divert our attention
   c) create a feeling of mastery and control and make us feel
      better about ourselves and the situation
   d) all of the above

24. Meditation is an example of which coping strategy?
   a) modifying the behavior of another
   b) relaxing
   c) eliminating the stressor
   d) modifying the environment

25. Which of the following are examples of avoiding the stressor?
   a) physically removing yourself from the stressor
   b) creating distractions
   c) a and b
   d) none of the above
26. Physical exercise
   a) diverts our attention from the stress
   b) discharges the energy created by the flight or fight response
   c) is especially helpful in dealing with under stress or stress overload which results in emotional burn-out
   d) all of the above

27. Taking a vacation, buying yourself a special treat, doing something you especially enjoy is an example of which strategy?
   a) relaxing
   b) avoiding the stressor
   c) pampering yourself
   d) changing your perception

28. An important consideration when choosing eliminating the source of stress as a coping strategy is
   a) weighing the consequences
   b) considering other alternatives
   c) a and b
   d) none of the above

29. Enriching, impoverishing, enlarging, and rearranging are examples of which strategy?
   a) modifying the behavior of another person
   b) changing the environment
   c) relaxing
   d) eliminating the source of stress
30. Things to be considered when using changing your perception of the situation as a strategy are:
   a) What is the value behind your perception?
   b) Do you have a value conflict?
   c) Can you tolerate another point of view without changing your own?
   d) all of the above

31. An effective way to modify the behavior of another is to
   a) learn to use I-messages
   b) increase the use of you-messages
   c) keeping negative feelings to yourself so as not to offend the other person
   d) none of the above

32. Distancing strategies are appropriate when:
   a) you can't escape the stressor
   b) you can't control the stressor
   c) you can't change the stressor
   d) all of the above

33. Confronting strategies are appropriate when
   a) you don't have to stay in the stressful situation
   b) you are in a position where you have at least some control of the situation
   c) modification of the stressor is both appropriate and possible
   d) all of the above
34. Which are examples of confronting techniques:
   a) eliminating the stressor
   b) physical exercise
   c) avoiding the stressor
   d) a and c

35. Which is true concerning matching coping strategies with stressors
   a) Using a confronting technique when distancing is more appropriate adds to stress
   b) Using a distancing technique when confronting is more appropriate is a band-aid approach and results in you having to deal with the stressor again and again unnecessarily
   c) Most internally caused stressors should be dealt with by using a confronting technique
   d) All of the above
Appendix D
Stress Management Program Announcement
PROGRAM ANNOUNCEMENT

A series of Stress Management Programs will be offered at this Medical Center in March, April, and May. Each program will consist of a two day workshop with a half day follow up session one month later. Any interested employee will be eligible to participate.

Because of the interest already expressed in having a Stress Management Program on station we are asking all employees who think they might be interested in participating to submit their names in writing to the office of the Associate Chief of Staff for Education (141) by close of business, Friday, February 18, 1983.

Having this information well in advance will allow us to schedule the programs so that all interested employees will have an opportunity to participate in one of the programs. If you have any questions regarding the program, please contact Sara Sue Schaeffer, Associate Chief of Staff for Education, EXT. 4243.
Appendix E
Informed Consent and Related Documents
Information About Study Entitled "The Effects of a Cognitive Stress Management Program on Perceptions of Stress Levels"

(Informed Consent)

You are invited to participate in a Stress Management Workshop presented as part of a research study being conducted through Western Michigan University. All those participants taking part in either of the first two workshops will be included as part of the study. If you do not wish to be included in the study, but which to take part in the workshop you will be scheduled for a later workshop.

The Stress Management Workshop is a two-consecutive-day workshop with a half-day follow-up session one month later. The workshop presents information about the effects of stress on an individual's health and well-being, and provides participants an opportunity to identify and better understand the way they personally experience stress, their own stressors, and those things they do to cope with stress which are not helpful. Participants will have an opportunity to learn helpful coping strategies, to match these strategies appropriately with the stressors in their lives, and to formulate a plan to cope better with their stress. The follow-up session will be a time for participants to share the effectiveness of their plans and their experiences in implementing their plans.

As part of the ongoing study to assess the effectiveness of the Stress Management Program each participant in the first two workshops will be asked to complete two paper and pencil instruments before and after the workshop. The first is the Stress Program Assessment Instrument (SPAI) which is simply a test of participants' knowledge of the information presented.
in the workshop. The second is the Life Experiences Survey (L.E.S.) which assesses life changes experienced by participants' and participants' perceptions of those life changes. Both the LES and the SPAI will be given a second time one month after the completion of the first workshop. This information will be helpful in assessing whether the workshop was effective in assisting participants to cope with stress. Instruments will be coded and participants' names will not appear on the instruments to assure that participants' responses will be confidential.

Both instruments will be administered to Stress Management Workshop participants who agree to participate in the study prior to the first workshop. At that time participants will be divided into two groups. The first group will go through the two-day workshop immediately. Approximately one month later there will be a half-day follow-up session for the first group. After this follow-up session is completed the instruments will again be administered to both groups, and then the second group will go through the two-day Stress Management Program and a half-day follow-up session one month after the completion of the program.

It should be noted that there are no known risks associated with this project. It is anticipated that benefits will be to assist participants in better coping with the stress in their lives.

Your participation is voluntary, and you have the right to refuse to take part. If you should refuse you will in no way be penalized for your refusal. Those persons who signed up for the workshop and do not wish to participate in the study will have an opportunity to take the workshop at a later day. For further information please contact Sara Sue Schaeffer, Associate Chief of Staff for Education (141), Ext. 4242.
If you choose to participate, please read and sign the following statement (form VA 10-1086) which further outlines your rights and the responsibilities of the Veterans Administration and its staff.

Please check one of the following and sign below:

___ I would like to participate in both the workshop and the study.

___ I would like to participate in the workshop only at a later date.

___ I choose to participate in neither the workshop or the study.

Participant Signature ___________________________ Date ______

Signature of Witness ____________________________ Date ______

Signature of Person Obtaining Informed Consent

Date ______
INFORMATION ABOUT STUDY ENTITLED
"THE EFFECTS OF A COGNITIVE STRESS MANAGEMENT PROGRAM
ON
PERCEPTIONS OF STRESS LEVELS"
(INFORMED CONSENT)
A Study Being Conducted by
Sara Sue Schaeffer, M.A., Ed.S.
as part of a
Western Michigan University Doctoral Dissertation

I understand that my participation in this study is voluntary and I may withdraw at any time without penalty to me or my position.

Participant Signature __________________ Date __________

Signature of Witness __________________ Date __________

Signature of Person Obtaining Informed Consent __________________ Date __________
PART I-AGREEMENT TO PARTICIPATE IN RESEARCH
BY OR UNDER THE DIRECTION OF THE VETERAN'S ADMINISTRATION

1. I, __________________________ (Type or print subject's name) voluntarily consent to participate as a subject in the investigation entitled "THE EFFECTS OF A COGNITIVE STRESS MANAGEMENT PROGRAM ON PERCEPTIONS OF STRESS LEVELS".

2. I have signed one or more information sheets with this title to show that I have read the description including the purpose and nature of the investigation, the procedures to be used, the risks, inconveniences, side effects and benefits to be expected, as well as other courses of action open to me and my right to withdraw from the investigation at any time. Each of these items has been explained to me by the investigator in the presence of a witness. The investigator has answered my questions concerning the investigation and I believe I understand what is intended.

3. I understand that no guarantees or assurances have been given me since the results and risks of an investigation are not always known before hand. I have been told that this investigation has been carefully planned, that the plan has been reviewed by knowledgeable people, and that every reasonable precaution will be taken to protect my well-being.

4. Nevertheless, I wish to limit my participation in the investigation as follows:

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<td>INVESTIGATOR'S NAME (Print or type)</td>
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☐ Signed information Sheets attached. ☐ Signed information Sheets available at:

| SUBJECT'S I.D. NO. | WARD |

AGREEMENT TO PARTICIPATE IN RESEARCH BY OR UNDER THE DIRECTION OF THE VETERAN'S ADMINISTRATION

VA FORM JUN 1975 10-1086 SUPERSEDES VA FORM 10-1086 MAY 1967, WHICH WILL NOT BE USED.
BIBLIOGRAPHY


Fancher, C. R., Jr. *Rising rate of infertility*. Detroit Free Press (MI), September 2, 1979, p. 5C.


