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A HOLISTIC APPROACH TO STRESS MANAGEMENT:
A PILOT STUDY

By

Michael J. Athans

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ABSTRACT

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Thirty-five subjects of this study responded to newspaper and radio public service notices in the greater Lansing area. Subjects were pretested and were randomly assigned to one of two groups. Group One received the five-week workshop based on the holistic model. Group Two was held as a control group and returned six weeks later when all subjects were post-tested. Group Two then received the five-week treatment and was posttested again. The same instructor, nurse, room, time, and day of the week were maintained for consistency of treatment.

The workshop (treatment) was focused on stress, its relationship to heart disease, and to psychophysiology. Type A personality was discussed, as well as nutritional, coping, defending, and physical exercise patterns in relation to stress. Subjects participated in a relaxation technique and aerobic exercise. The workshop was didactic and participatory, with small group discussion.

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technique and aerobic exercise. The workshop was didactic
and participatory, with small group discussion.

The dependent variables used during testing periods were the MMPI ego strength and emotional disorder scales, the basic coping and psychogenic attitude scales from Millon's Behavioral Health Inventory, Haan's coping and defending scales, a checklist derived to measure dietary intake and physical exercise patterns, and systolic and diastolic blood pressure readings.

In the statistical analysis of data, multiple analysis of covariance was performed on all dependent variables, with sex and pretest covaried. An overall group effect was found to exist, with subsequent univariate analysis revealing the psychogenic attitude scale, Haan's defending scale and dietary intake and physical exercise patterns accounting for the overall group effect. The results of this study suggest that ego strength and coping styles are less likely to increase as a result of a five-week workshop, whereas subjects' defensiveness decreased. Blood pressure readings remained normal for both groups during this period.

Limitations of this study and recommendations for further research include a larger sample for increased cell size, reducing the possibility of significant results due to chance. Also, a longer period of time may be necessary for physiological and personality variables for change.

The dependent variables used during testing periods were the 1987 ego and psychogenic scales from the Behavioral Health Inventory, Hann's coping and coping styles, and measures of dietary and exercise patterns, and systolic and diastolic blood pressure. Multiple readings of these variables were taken and the mean was used in the statistical analysis. An overall group effect was found for the dependent variables. An overall analysis revealed the following: Hann's coping scale and coping styles were significantly associated with the dependent variables. The results of this study suggest that the dependent variables remained normal during the five-week period. Blood pressure remained normal during this period. The results of this study and recommendations for further research indicate a larger sample for increased cell size and a longer period of time may be necessary for the dependent variables for change.

DEDICATION

To Michael and Christine, my parents, who taught me one of life's enduring qualities, commitment. Your support and understanding is always with me.

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CHAPTER I

THE PROBLEM

Introduction

The effects of stress have become pervasive and universal, creating a national concern. People of all ages and occupations use the term "burnout" to describe feelings of physical and emotional depletion. Home situations and personal lifestyles have also contributed to some people's distress, perhaps as a result of a continuously changing, highly technological society. While in 1900 most Americans were farming in rural areas, 75 years later 75 percent had crowded into urban areas and only 4 percent of the remaining 25 percent were employed on farms. In response to this swift urbanization and change in lifestyles, there has been a tremendous rise in the number of self-help groups, seminars, workshops, and books related to helping people understand their environment and reduce the stress in their lives.

Physical stress symptoms range from short-lived fatigue to chronic back pain, migraine headaches and ulcers. Affective symptoms include hostility, aggression, irritability, depression and apathy. Psychosomatic components may comprise or aggravate disorders. For example, Meyer and Haggerty (1962) demonstrated that respiratory illness

became four times as severe if preceded by acute stress. Doctors trained by the traditional medical model typically pay little attention to personal dynamics such as attitudes, coping and defending behaviors, and nutritional factors such as the excessive intake of sugar, caffeine or meats. The alleviation of immediate symptoms then, rather than the prevention of illness and maintenance of health, has tended to be the focus of traditional medicine.

In contrast, the holistic health model has proved useful in preventing stress reactions and alleviating stress symptoms. Pelletier (1977) states:

Holistic medicine recognizes the inextricable interaction between the person and his psychosocial environment. Mind and body function as an integrated unit, and health exists when they are in harmony, while illness results when stress and conflict disrupt this process. (p. 11)

The holistic model then, holds that each individual is comprised of a mind, body and spirit interaction and that the body is in a state of health when these elements function in harmony. Disorders are created, not only by physical means, but by the disruptive interaction of social factors, personality variables, psychological stress and the inability to find integrative solutions to this complex of variables. Failure to maintain the balance is likely to result in psychosomatic illness. For example, when a person cannot cope with environmental stress, the body breaks down at its weakest point as part of a disturbed adaptive process. The holistic model suggests that this reaction is not inevitable and that

the individual has some control of biological and psychological functions, as well as the environment. Holistic health differs from traditional medicine in that the latter tends to pay less attention to the patient's psychosocial environment and holistic medicine suggests that one can gain control over it by carefully looking at all the factors which may represent potential stressors.

Theory

From the time of Hippocrates it has been recognized that psychological factors play a precipitating role in physical illness. Ulcers, headaches, asthma and pain are but a few of the ailments thought to be psychogenic in origin. Recent research indicates that certain personality characteristics are more inclined to produce a "stressed state" in the body, thereby making it more prone to such ailments, including coronary heart disease (Rosenman, Braud, Jenkins, Friedman, Straus and Wurm, 1975).

Selye's (1956) General Adaptation Syndrome (GAS) is a theory which illustrates the physiological mechanisms in which prolonged stress produces pathology and damage to the body. GAS consists of three states: alarm reaction, stage of resistance, and state of exhaustion. In the GAS, pituitary-adrenal cortical hormone secretions act as a system of defense to ward off noxious stimuli. The alarm reaction is the body's only acknowledgement of stress on the system. In the stage of resistance, the body responds to the stress, increasing its resistance to the noxious agent. If these defenses are

maintained, disease may result from the adrenal cortical and pituitary hormones, inflammation, and/or the lowering of body resistance, creating an "exhausted" physical state.

Numerous studies have shown that how an individual copes may reduce physiological arousal to stressful events (Singer, 1974; Hinkle, 1974). Coping and defending strategies, depending on their use, may serve to exacerbate or alleviate the stressful condition. One example is the use of repression as a defense, prolonging stress and resulting in increased anxiety or depression. Other mechanisms in the coping and defending processes include denial, tolerance of ambiguity, doubt, empathy, intellectualization, projection, isolation and others.

Activity has been known to reduce stress by producing a healthy, invigorated body (Blumenthal, Williams & Williams, 1980). Increased activity and physical exercise improve the tone and quality of muscle tissue and strengthen the blood vessels, lungs and heart. Even low levels of activity prove more beneficial than none at all. Miller, Rubin, Clark, Crawford and Arthur (1970) found that airplane pilots who were active in the landing of their aircraft had less somatic complaints and less anxiety as compared to radar intercept officers who have a sedentary role in the landing of aircraft.

Holistic medicine emphasizes maintaining a healthy body by exploring one's coping and defending styles and by

observing the level of physical activity and food intake, as this also contributes to how one feels physically. For example, certain foods are easily digested and metabolized. Other foods not only require a longer digestive process, but also release chemicals which must be stored in the body, at times reaching dangerous levels. One such chemical is tyrosine, the amino acid found in meat. Julien (1978) believes that it is transformed into amino acids which stimulate the sympathetic nervous system. Such stress on the system may prove harmful over prolonged periods. Proteins, carbohydrates and fats taken in will be reflected in energy levels, as well as in the physical condition of the body. Pritikin (1979) holds that Americans consume an excess of meats at the risk of heart disease. He emphasizes a low fat diet, high in complex carbohydrates to reduce potential for heart disease and reduce lethargy, indicating that nutritional intake plays an important part in whether or not the body feels stressed.

The variables of nutrition, physical exercise, and coping and defending styles as described above, then, are holistic components which act together to determine an individual's ability to adapt to and deal with stressful encounters in everyday living.

Need for the Study

A review of the literature suggests that although there are many well thought out theories and research studies concerning the relationship between stress and disease, researchers have tended to focus on how stress affects one or another specific area of human functioning. For example, Selye (1956), Levi (1974), and Singer (1974) have emphasized how hormones respond to life adjustments and their effects on the likelihood of disease. Friedman and Rosenman (1974), Dimsdale and Moss (1980), McCranie, Simpson and Stevens (1981), Howard (1976), and others have focused on the relationship of Type A behavior patterns to coronary heart disease. Lazarus (1966) has examined how people perceive life events through the appraisal of stimuli. Haan (1963) has looked at coping and defending mechanisms, and Hinkle (1974) at how defending relates to frequency of illness. Julien (1978) has studied the intake of foods and how this may create stress and Blumenthal, Williams, Kong, Schanberg and Thompson (1980) have done the same regarding the role of physical exercise.

There has been little research combining these related theories and studies into an integrated investigation of health. Pelletier (1977) has come closest to this by unifying the theories of others into one "holistic" model. However, virtually no research has been undertaken to study these holistic concepts in their mutual interaction as they affect prevention and treatment.

Purpose

The purpose of the present study is to design a holistic approach to stress management, which includes the variables of nutrition, activity and psychological coping and defending mechanisms. The holistic nature of the stress management workshop is emphasized to provide participants of the study with an understanding of how the mind and body work in unison and facilitate coping with stress.

Hypotheses

The hypotheses of this study are dependent variables measuring the holistic concepts. The dependent variables of coping and defending behaviors are measured using scales from Norma Haan's Coping Inventory, the Millon Behavioral Health Inventory and scales from the Minnesota Multiphasic Personality Inventory (MMPI). Nutritional intake and physical exercise variables are measured using a checklist. Physiological readings of blood pressure are recorded as dependent variables.

The following are the research hypotheses which are stated in null and research form in Chapter III, and for which the results are stated in Chapter IV.

Hypothesis I: The treatment group will show a decrease in posttest scores as compared to the control group on the dependent variable emotional disorder (MMPI).

Hypothesis II: The treatment group will have an increase in posttest scores as compared to the control group on the dependent variable ego strength (MMPI).

- Hypothesis III: The treatment group will have a decrease in posttest scores as compared to the control group on the dependent variable basic coping scales (Millon Behavioral Health Inventory).
- Hypothesis IV: The treatment group will have a decrease in posttest scores as compared to the control group on the dependent variable psychogenic attitude scales (Millon Behavioral Health Inventory).
- Hypothesis V: The treatment group will have an increase in posttest scores as compared to the control group on the dependent variable Haan's coping scales.
- Hypothesis VI: The treatment group will have a decrease in posttest scores as compared to the control group on the dependent variable Haan's defense scales.
- Hypothesis VII: The treatment group will have a decrease in posttest scores as compared to the control group on the dependent variable systolic blood pressure.
- Hypothesis VIII: The treatment group will have a decrease in posttest scores as compared to the control group on the dependent variable diastolic blood pressure.
- Hypothesis IX: The treatment group will have improved dietary intake in posttest scores as compared to the control group on the dependent variable nutrition (checklist).
- Hypothesis X: The treatment group will exhibit increased physical exercise in posttest scores as compared to the control group on the dependent variable physical exercise (checklist).

Overview

The second chapter is a review of the literature pertaining to theory and research leading up to the present study. A basic explanation of stress is from the work of Hans Selye, a pioneer in physiological stress research. The psychophysiology of stress

will be discussed to explain the chain of events which takes place from the actual perception of a stressor to its ultimate behavioral manifestation. The pathology of atherosclerosis, myocardial infarction, and angina pectoris will then be discussed, as these diseases are often manifestations of advanced forms of stress. Rosenman and Friedman's research on coronary heart disease and Type A personality, and research which supports this view are included. Also important in this section is the role of nutrition and disease, as changes in dietary intake are correlated to such disorders as hypoglycemia, anxiety, and coronary heart disease.

Coping and defending will be examined, as these behaviors play an important role in the manifestation and maintenance of stress. Contributions in this section include the research of Pearlin and Schooler, Norma Haan and Richard Lazarus.

A review of pertinent literature indicates that little empirical research has been conducted on the holistic approach to understanding stress. Thus, the last part of the literature review will focus on coping, stress, and the management of stress through holistic methods. The holistic variables of nutrition, physical exercise, and coping mechanisms, which include attitudes about life and work will be discussed. This holistic approach is one method of understanding, treating, and preventing stress.

The sample, population, research procedures, hypotheses, instrumentation, analysis and the experimental design of this study are described in Chapter III and Chapter IV is an

analysis of data. Chapter V includes a discussion of the results, summary, and conclusions.

CHAPTER II

REVIEW OF THE LITERATURE

Stress

Selye (1974) defines stress as "the nonspecific response of the body to any demand made upon it" (p. 14). What Selye means is that it does not matter if a situation is pleasant or unpleasant, what matters is how one responds to the situation, since evidence suggests that life events of either a pleasant or unpleasant nature result in increased physiological activity. For example, Levi (1964) has shown that both amusing and aggression-provoking films result in increased levels of adrenal medullary hormones. While stress has been given "bad press" by a society which finds it all too prevalent, Selye makes it clear that complete freedom from stress could result in death.

Exposure of the body to stress may have beneficial or damaging results. Responses to stress are manifested in a variety of ways. When a part of the body is exposed to stress, the result may be increased local resistance, such as adaptation, inflammation or tissue breakdown, depending on the body's interpretation of the need. In response, corticoids will either combat or promote inflammation and hormones will either produce acetylcholine or adrenalin

for the fight or flight response. Examples of the resistance phase at the psychological and physiological levels can be seen in the body's efforts to achieve a homeostatic balance. These include eating when hungry, psychological defense mechanisms, and neural-hormonal reactions to stress on the body.

The Psychophysiology of Stress

Attitudes contribute to how we feel because they are perceptions which are learned over time and include feelings and beliefs about other persons, objects, events, and activities (Tossi, 1977). Once the above stimuli are perceived as stressful, the body then produces a neurophysiological reaction which stresses the body and can cause permanent harm if prolonged (Selye, 1974). An example is frustration, which may turn stress into distress.

Selye's (1956) "General Adaptation Syndrome" (GAS) explains three phases which are constantly reproduced when demands are made on the body. The first phase is an alarm reaction which results from dealing with a new or ambiguous situation. The physiology of this reaction involves increasing sympathetic-adrenomedullary activity by sending epinephrine through the vascular system. The second phase of this syndrome is the resistance state, in which the body attempts to make a physiological adjustment. Adaptation

during the resistance phase takes place if one learns to cope with the stimulus. Exhaustion is the final state of the adaptation syndrome, occurring after prolonged exposure to a stressor, when energy resources become depleted. Death is the body's most dramatic response to prolonged stress.

To explain how these reactions come about, it is necessary to know that the nervous system is broken down into a central nervous system (CNS) and a peripheral nervous system. The CNS consists of the brain and the spinal cord, the peripheral system contains all the neural tissue outside the CNS (see chart 1). The peripheral nervous system is further described as having somatic and autonomic components, with sympathetic and parasympathetic systems forming part of the autonomic nerves and muscle tissue. Both the brain and the autonomic system are important in that the brain perceives stressful stimuli and regulates bodily functions, and the autonomic system responds to these signals viscerally through neural tissue.

The subcortical areas of the brain regulate normal body functions and include the basic control center for the autonomic nervous system, which is the system principally responsible for maintaining a stressed state. This area includes the cerebellum, the center regulating body movements; the medulla oblongata, which regulates heartbeat, respiration, and blood vessel diameters; and the pons, which regulates the sleep cycle.

CHART 1

SUBDIVISIONS OF THE NERVOUS SYSTEM

| | | | | | | |
|---------------------------|------------------------------|-----------|-------------------|-----------------|---------------|---------------------|
| Nervous System | Central Nervous System (CNS) | Brain | Forebrain | Telencephalon | Neocortex | Reticular Formation |
| | | | | | Basal Ganglia | |
| | | | | | Limbic System | |
| | | | Midbrain | Diencephalon | Thalamus | |
| | | | | | Hypothalamus | |
| | | | | | | |
| | Spinal Cord | Hindbrain | Cerebellum | | | |
| | | | | | | |
| | | | | | | |
| | | | Medulla Oblongata | | | |
| | | | | | | |
| | | | | | | |
| Peripheral Nervous System | Somatic | Autonomic | Sympathetic | Parasympathetic | | |
| | | | | | | |
| | | | | | | |

The midbrain and cerebral hemispheres include the basal ganglia, thalamus and hypothalamus, the latter which is a primary activator of the autonomic nervous system, acting to transform neurological stimuli into endocrine-producing stress reactions. The hypothalamus is also connected with the limbic system, and is known as the seat of emotion. Chauchard (1962) and Gelhorn and Loufbourrow (1963) consider the hypothalamus a critical organ in the regulation of emotion.

Stress activates the autonomic nervous system and the endocrine system through the limbic system, which determines when the hypothalamus will be activated. This organ also responds to perceived stress from the cortex, which is responsible for the higher-order abstract functions of language, memory, and reasoning.

The brain stem reticular formation is part of the CNS. It extends up the rear of the medulla into the midbrain and the hypothalamic part of the forebrain. The reticular formation, also known as the reticular activating system (RAS), is discussed because it serves as a general arousal system, activating the cortex to stimulate visceral arousal and muscle tension (French, 1957). The end result, not produced by the reticular system alone, is the changing of a psychological stressor into a neurophysiological response where the subjective experience of stress is also felt physically.

The autonomic nervous system controls gastrointestinal, vascular, and reproductive functions. The sympathetic nervous

system, a part of the autonomic system, serves to control involuntary muscles and constrict blood vessels. The parasympathetic system acts to extend smooth muscles, thereby inducing relaxation. When a stressor is perceived by the cortex the brain sends signals out so quickly that the autonomic system is said to react "automatically," exciting or inhibiting the sympathetic or parasympathetic systems through muscle extension or contraction and blood vessel constriction or dilation. When the sympathetic system constricts blood vessels to accelerate heart rate, blood moves away from the body's extremities to the head and trunk, resulting in the feeling of cold hands and feet. Muscle tension is also perceived under stress; even if not consciously recognized, it can leave the body drained at the end of a day.

The sympathetic and parasympathetic systems of the autonomic nervous system are receiving increased attention because evidence indicates that it is possible to gain some control over these systems. Meditation, biofeedback, and other relaxation techniques are relatively recent methods of reducing muscle tension and hormones in the body.

When a stressor is perceived it also excites the hypothalamus, which in turn produces a substance that stimulates the pituitary. This gland is part of the endocrine system which secretes the adrenocorticotrophic (ACTH) hormone into the blood, maintaining a stress reaction by stimulating the heart and brain for the fight or flight response. Recent evidence indicates that under long-term stress, ACTH induces the external cortical portion

of the adrenal gland to secrete corticoids which act to inhibit inflammation and defend the body via immune reactions. Thyroxine is also produced during periods of long-term stress, while adrenalin is activated by the adrenal gland to deal with short-term stress, dilating the arteries of the heart, accelerating heart rate, and increasing blood circulation (Selye, 1954; Pelletier, 1977; Jenkins, 1978).

Simpson, Olewine, Jenkins (1974) and others find that under stress there is increased tendency for the clotting elements of the blood to build up plaque and thicken the arterial wall, narrowing that passageway. As blood vessels narrow and clots form, there is greater likelihood that the clots will occlude a coronary artery, resulting in angina pectoris or myocardial infarction. Singer's (1974) research also shows that intense day-to-day involvement is linked to elevated blood pressure and increased endocrine response.

Stress and Disease

Some diseases in which stress plays a particularly important role are high blood pressure, atherosclerosis, myocardial infarction, angina pectoris, gastric ulcers, and various mental disturbances. Atherosclerosis is a cardiovascular disease, the most prevalent disease of mankind. In 1978 there were two million deaths in the United States, of which 52 percent were due to cardiovascular disease, mainly the result of atherosclerosis. Myocardial infarction is a dramatic form of heart disease in which 95 percent of the victims suffer from atherosclerosis. One of the causes of

this condition is a lesion or obstruction in the arterial wall, which eventually produces a heart attack. Where occlusion is not evident, any sudden increases in myocardial demands, including those produced by physical or emotional stress, may lead to myocardial infarction.

The personality variables such as hard striving for achievement which contribute to a stressful lifestyle, lack of regular physical exercise and high intake of saturated fats are said to be predisposing factors for heart disease. Other predisposing epidemiological factors include: elevated lipoprotein (this includes cholesterol), increased blood pressure, cigarette smoking, and elevated blood sugar (Robbins & Angell, 1976).

Evidence suggests that anxiety, depression and psychosomatic illnesses are also related to the development of coronary heart disease, particularly angina pectoris. The attacks are thought to be caused by a sudden imbalance between myocardial demands and the capacity of the coronary arteries to fulfill those demands. Angina is defined as chest pain precipitated by effort and alleviated by rest. Ostfeld, Lebovits, Shekelle and Paul (1964) found that people who developed angina complained of a variety of somatic symptoms. Repression and denial were often used by these patients in an attempt to resolve emotional conflicts and dissatisfaction. In the above study, men who subsequently developed angina pectoris, as compared to myocardial infarction patients and those without heart disease, scored

significantly higher on the MMPI Hypochondriasis and Hysteria scales and lower on "dissatisfied emotionally" scale of the 16PF, two personality inventories which measure psychological traits.

The role of anxiety in coronary heart disease was also discussed by Medalie, Kahn, Neufeld, Riss, Goldbourt, Perlstein and Oron (1973), who found that subjects who scored high in anxiety were twice as likely to develop angina pectoris as those who scored low on anxiety. The research of Medalie et al supports Jenkin's (1971) statement that work overload and chronic conflict situations may be precursors of coronary heart disease. People with problems related to family, work, and finances were found to be more likely to develop angina pectoris than those without such conflicts.

Starting in 1960, Rosenman, Friedman and their colleagues followed 3,500 men for eight and a half years in a longitudinal study known as the Western Collaborative Group Study (WCGS). The men were examined medically, and the results of the examination indicated that men of average height who developed coronary heart disease were similar to healthy men, but heavier in weight. In addition, men who reported moderate to heavy work activity, or who undertook regular daily exercise had lower rates of heart disease than those with sedentary to light work and virtually no exercise. Cigarette smoking was found to be a significant precursor of heart disease among men 39 to 49 years old, but not for men in the 50 to 59 age bracket (Rosenman, Friedman, Straus, Wurm,

Kositchek, Hahn, and Werthessen, 1964). A history of coronary heart disease in either parent was also associated with a higher rate of coronary heart disease.

Biological factors found to be significantly related to heart disease in the Rosenman study included systolic and diastolic blood pressure, as well as serum concentrations of cholesterol, triglycerides, lipalbumin, beta lipoproteins, and the beta/alpha lipoprotein ratio. At both high and low cholesterol levels, men with high beta/alpha ratios developed more coronary heart disease than those with lower ratios.

Heart Disease and the Type A Behavior Pattern

The results of the Rosenman and Friedman study also confirmed the Type A behavior pattern as a precursor of chronic heart disease, independent of the standard risk factors (Rosenman et al., 1975; 1964). Subjects in their study were classified as either "Type A" or "Type B" personalities, following a structured interview. Type A personality exhibits behavior characterized by hard driving, aggressive striving for achievement, competitiveness, impatience, restlessness, a continual state of alertness, and consistently hurried activity (Jenkins, 1971). Type B personality lacks these characteristics.

In the WCGS longitudinal study, those subjects judged to be Type A at the onset of the study exhibited twice the rate of coronary disease, were five times as likely to have a second myocardial infarction, and had twice the rate of

fatal heart attacks as those who did not exhibit Type A characteristics (Type B subjects). These differences remained, even when serum lipids, blood pressure, smoking, obesity and other biological factors were held constant statistically. The risk was, in fact, approximately equal to that produced by other chronic heart disease risk factors such as elevated blood pressure, high cholesterol levels, or cigarette smoking. Similar findings have subsequently been reported by Kenigsberg, Zyzanski, Jenkins, and Warwell (1974).

Other researchers have independently reported empirical evidence from studies of coronary heart disease patients and matched control groups, indicating that patients with coronary disease strive more diligently for achievement, tend to be perfectionists, are chronically tense and unable to relax, are committed to expending more energy on a job or profession, and are more active and energetic than corresponding comparison groups (Jenkins, 1971). This constellation of traits approximates Rosenman and Friedman's Type A behavior pattern, which also includes aggressiveness and time urgency among its essential aspects (Rosenman et al., 1964; Friedman, 1969).

Howard, Cunningham, and Rechnitzer (1976) conducted a study similar to Rosenman and Friedman's, in which 236 managers from twelve different companies were examined for prevalence of Type A behavior. This three-year longitudinal study included a number of measures of health, job and career

issues, personality, changes in lifestyle and family environment. Physiological measures included resting blood pressure, serum, lipids, and an exercise stress test. Approximately 60 percent of the managers were classified as Type A's. The result showed that lower levels of education were associated with a greater prevalence of Type A behavior. Type A behavior also declined slightly with age, while Type B behavior increased slightly with age. In the biochemical analyses, Type A persons exhibited significantly higher systolic and diastolic blood pressure and serum triglyceride levels than Type B individuals.

Subjects were also asked to indicate their exercise and smoking habits. Although a large percentage of Type A's were found to be cigarette smokers, smoking was not found to be significantly related to either behavior type. In contrast, however, exercise habits were type-related; in every age group except the eldest, a larger percentage of the Type B's were exercisers. The above results tend to confirm the findings of Rosenman and Friedman and indicate how the Type A behavior pattern is related to a number of the risk factors in coronary heart disease.

Jenkins (1978) went further to suggest that the Type A behavior pattern is specifically associated with atherosclerotic diseases. Analysis of the Western Collaborative Group Study shows that only those persons dying of coronary disease and those dying of accidents clearly have a Type A mean score on the Activity Survey, a measure of Type A personality. Jenkins reports that men dying of malignancies, lung diseases,

Jackline reports that men dying of malignant, lung disease, and those on the activity survey, a measure of maladjustment, lung disease, and those dying of accidents, have a Type A personality. Study shows that only those dying of Type A personality, lung disease, and those on the activity survey, a measure of maladjustment, lung disease, and those dying of accidents, have a Type A personality. Jackline reports that men dying of malignant, lung disease, and those on the activity survey, a measure of maladjustment, lung disease, and those dying of accidents, have a Type A personality.

and the like tend to be rather evenly distributed between Type A and B, often closer to Type B.

Blumenthal, Williams, Kong, Shamberg and Thompson (1978) found similar results in that the Type A behavior pattern was not only associated with increased risk of specific coronary heart disease events, but was even more prevalent among patient groups with more severe coronary atherosclerosis. The findings further suggest that behavior patterns are related to atherosclerotic processes in women as well as men. Their 156 patients received a behavioral evaluation (using the structured interview technique developed by Rosenman and Friedman), psychological testing, blood levels, and arteriograms. A medical history was taken prior to coronary angiography. The authors found Type A behavior patterns to be related to indices of lipid metabolism previously associated with increased risk for coronary heart disease. The Type B patients had a mean serum cholesterol level of 211 mg, with Type A having 248 mg. This difference was statistically significant and remained so when means were adjusted for age and sex. Type A behavior patterns were also related to a positive history of hyperlipidemia. Blumenthal and his associates did not find statistically significant differences between Type A and Type B patients with respect to cigarette smoking or blood pressure. However, the relationship between behavior pattern and total coronary index remained significant when age, sex, blood pressure, cholesterol, and cigarette smoking were all simultaneously covaried.

cigarette smoking were all simultaneously covered, and when age, sex, blood pressure, cholesterol, and behavior pattern and total coronary index remained significant smoking or blood pressure. However, the relationship between between Type A and Type B patients with respect to cigarette associated did not find statistically significant differences positive history of hyperlipidemia. Blumenthal and his and sex, Type A behavior patterns were also related to a significant and remained so when means were adjusted for age Type A having 248 mg. This difference was statistically patients had a mean serum cholesterol level of 211 mg, with with increased risk for coronary heart disease. The Type B related to indices of lipid metabolism previously associated groups. The authors found Type A behavior patterns to be grams. A medical history was taken prior to coronary angiogram, psychological testing, blood levels, and electrocardiogram. The findings further suggest that behavior patterns are related to atherosclerotic processes in women as well as men. Their 128 patients received a behavioral evaluation (using the structured interview technique developed by Rosenman and Friedman, psychological testing, blood levels, and electrocardiogram). The authors found Type A behavior patterns to be found similar results in that the Type A behavior pattern Blumenthal, Williams, Kopp, Shandberg and Thompson (1978) Type A and B, often closer to Type B. and the like tend to be rather evenly distributed between

The Rosenman and Friedman research, and the research it stimulated, raise the question of eventual, personal control over chronic heart disease. The findings have many implications which could conceivably reduce the incidence of heart disease and its annual cost. The evidence that Type A behavior may even play a role in the atherosclerotic process suggests that the pattern exerts its influence upon chronic heart disease risk over time and highlights the importance of identifying and modifying Type A behavior patterns early in life.

Nutrition and Disease

There have been many changes in food consumption in the United States in the last few years, with dramatic increases in carbohydrate and sugar consumption and a reduction in the use of protein. Malnutrition is a word that is no longer associated with only underdeveloped countries:

The nature of the aberration is (1) an excess of total calories, empty calories, total fat, saturated fat, cholesterol, refined sugar, salt, and (2) an inadequacy (relative and/or absolute) of essential nutrients (vitamins, minerals, essential amino acids and essential fatty acids) and bulk. This malnutrition of a different type is actually widespread in the economically developed countries--malnutrition in the literal meaning of the word, bad nutrition. (Katz, Stamper and Pick, 1958)

A change in the pattern of carbohydrate intake appears to be the most obvious alteration in the world's dietary intake during the twentieth century. This pattern essentially involves a reduction in complex and an increase in simple carbohydrate consumption (Albrink, 1965; Antar, Ohlson and

Hodges, 1964; Takahashi, 1962; Yudkin, 1964). Such eating habits tend to reduce the intake of protein, vitamins, and minerals since many of the simple carbohydrate foods are relatively low in these nutrients.

In this regard, an association is thought to exist between abnormal behavior and the metabolism of nutrients. Specifically, carbohydrate metabolism is correlated to disorders. One of these, hypoglycemia, is an excess of sugar or glucose in the blood as a result of diet and has been observed to mimic many psychiatric, somatic, and neurological disorders. Correlations exist between hypoglycemia and anxiety, irritability, fatigue, mental confusion, and uncontrollable emotional outbursts (Richter, 1959; Williams, 1959; Salzer, 1966). (See Table 1). Depression has been linked with dietary riboflavin or pantothenic acid deficiencies (Eiduson, Geller, Yuwiler and Eiduson, 1964).

Diet deserves serious attention in the coronary proneness profile because of its effects on nutritional, endocrinologic and metabolic status. The dietary alterations suggested by the Council on Foods and Nutrition are primarily concerned with the regulation of dietary fat, especially the saturated

TABLE 1

MAJOR SYMPTOMS IN 300 CASES OF RELATIVE HYPOGLYCEMIA

| Symptoms | Percentage of Patients Reporting Symptoms |
|---------------------------------|--|
| <u>Psychiatric</u> | |
| depression | 60 |
| insomnia | 50 |
| anxiety | 50 |
| irritability | 45 |
| crying spells | 32 |
| phobias | 31 |
| lack of concentration | 30 |
| forgetfulness or confusion | 26 |
| unsocial or antisocial behavior | 22 |
| restlessness | 20 |
| previous psychosis | 12 |
| suicidal | 10 |
| <u>Somatic</u> | |
| exhaustion or fatigue | 87 |
| sweating | 41 |
| tachycardia | 37 |
| anorexia | 32 |
| chronic indigestion or bloating | 29 |
| cold hands or feet | 26 |
| joint pains | 23 |
| obesity | 19 |
| abdominal spasm | 16 |
| <u>Neurologic</u> | |
| headache | 45 |
| tremor (inward or external) | 42 |
| muscle pains and backache | 38 |
| numbness | 29 |
| blurred vision | 24 |
| muscular twitching or cramps | 23 |
| staggering | 18 |
| fainting or blackouts | 14 |
| convulsions | 4 |

SOURCE: H. Salzer, Relative hypoglycemia as a cause of neuropsychiatric illness, Journal of National Medical Association, 58, 1, 12-17, 1966.

fatty acids, with the ultimate purpose of preventing hyperlipemia and its consequence, coronary heart disease. Concern with substantial increases in simple carbohydrates in economically advanced countries in the twentieth century, and a closer relationship between ischemic heart disease mortality and sugar intake is more recently apparent. Significant blood glucose changes follow the elimination of refined carbohydrates from the diet. There is a direct relationship between glucose in the blood and systolic blood pressure; as glucose levels increase, so does systolic pressure. The reverse is also true. While these relationships (see Tables 2, 3) have been well established, blood glucose levels will vary and researchers have not yet determined what levels are physiologically acceptable to avoid coronary heart disease and possible early death (Antar, 1964; Greaves, 1964; Yudkin, 1964; Ashton, 1965; Banyopadhyay, 1964; Yudkin, 1966). The data suggest the need for further research in the area of dietary carbohydrates and coronary heart disease.

Field Dependence and Independence

Extensive research indicates that field dependent and field independent individuals differ in aspects of social behavior and physiological functioning. Field dependence is the extent to which individuals utilize external frames of reference in organizing their perceptions. Field dependent individuals exhibit a reduced sense of separate identity from other people, reflected in such traits as preferring more social interaction with others, being more attentive

TABLE 2

INTERRELATIONSHIPS BETWEEN DIETARY CARBOHYDRATE, BIOCHEMICAL
PARAMETERS OF ENERGY METABOLISM, AND DISEASE STATES

| Diet | Metabolism | Disease State |
|--|---|---|
| High <u>carbohydrate</u> intake | Increases serum tri-glycerides, circulation insulin and insulin resistance | Enhances atherosclerosis and the development of diabetes mellitus |
| High <u>refined carbohydrate</u> intake | Results in a <u>deficiency</u> of specific carbohydrate enzymes and a <u>decrease</u> in glucose tolerance | Gives rise to diabetes mellitus and atherosclerosis |
| Most of dietary carbohydrate as <u>sucrose</u> or <u>glucose</u> | Causes an <u>increase</u> in serum triglycerides | A feature of: obesity, diabetes mellitus, gout, atherosclerosis |
| Most of dietary carbohydrate as <u>starch</u> | Produces a <u>reduction</u> in serum triglycerides | |
| 100 gram <u>glucose</u> tolerance supplement of 60 grams intravenously | Produces an <u>excessive</u> serum insulin response | Obesity, hyperglycemia |
| 100 gram oral or 25 gram intravenous <u>glucose</u> tolerance supplement | Yields evidence of a close association between <u>impaired</u> glucose tolerance and <u>increased</u> serum triglycerides | Supports the possibility that elevation of plasma triglycerides is a manifestation of insulin resistance and represents a stage in the development of maturity onset diabetes |

SOURCE: M. Albrink and P. Davidson, "Impaired glucose tolerance in patients with hypertriglyceridemia," Journal of Laboratory and Clinical Medicine, 67:4, 573-584, April 1966.

TABLE 3

INTERRELATIONSHIPS BETWEEN BIOCHEMICAL PARAMETERS OF
ENERGY METABOLISM AND DISEASE STATES

| Relationship | Occurrence |
|---|---|
| A positive association exists between hypertriglyceridemia, hyperuricemia, and impaired glucose tolerance | |
| A primary association between hypertriglyceridemia and impaired glucose tolerance | May explain the increased frequency of diabetes in diseases such as coronary atherosclerosis, hypertension, hyperlipemia and gout (which have elevated triglyceride levels as a common feature) |
| Decreased carbohydrate tolerance, abnormal lipid patterns, excessive insulin response to glucose, and excessive synalbumin insulin antagonism | Exists in diabetes mellitus, atherosclerosis, and ischemic heart disease |
| Correction of elevated serum triglyceride levels occurred | In maturity onset diabetes that responds to tolbutamide |
| Impaired carbohydrate metabolism or an impaired glucose tolerance | Is evident in: pregnancy, women taking ovulatory suppressants |

SOURCE: M. Albrink and P. Davidson, "Impaired glucose tolerance in patients with hypertriglyceridemia," Journal of Laboratory and Clinical Medicine, 67:4, 573-584, April 1966.

to social cues, and being less concerned with achievement striving than field independent persons.

A number of studies have found field dependent individuals to be more likely to have higher basal levels of galvanic skin response (Silverman, Cohen, Shmauonian, & Greenberg, 1961), higher levels of free fatty acids (McGough, Silverman, & Boddonoff, 1971), and higher levels of serum cholesterol (Flemenbaum, 1978; Sousa-Poza, Rohrberg, Bellabarba & Ruest, 1976) in comparison to more independent persons. Several investigators have interpreted these findings to indicate a heightened state of autonomic arousal in field dependent individuals as compared to their field independent counterparts (Flemembaum, 1978; McGough, Silverman, & Boddonoff, 1965; Pillsburgy, Meyerowitz, Salzman, & Satran, 1967; Silverman, McGough, & Boddonoff, 1967). These physiological findings suggest that degree of field dependence/independence may be an important personality dimension influencing Type A individuals, as well as others.

Compared to field independent Type A individuals, field dependent Type A's may be expected to experience greater autonomic arousal in response to environmental stimuli. McCranie, Simpson, and Stevens (1981) hypothesized that persons possessing a field dependent cognitive style in combination with Type A behavior would exhibit higher levels of serum cholesterol and triglycerides than field independent Type A individuals. In a study of 82 medical students, these researchers' results showed that field dependent Type A's had higher total cholesterol and triglyceride levels than field independent

Type A's and either group of Type B subjects. They suggest that field dependent Type A individuals become more physiologically aroused in response to environmental stimuli due to self-involvement and awareness, leading to greater physiologic motivation in response to perceived environmental challenges. They further believe that these individuals are more concerned with comparing and evaluating their behavior and performance with that of others, thereby producing chronic arousal in response to perceived interpersonal challenges.

Field dependence/independence research confirms that when social, environmental, and physiological factors impinge upon individuals, they affect psychological states and are perceived as stressful. Psychodynamically, the above research may be interpreted to mean that a combination of Type A behavior and a field dependent cognitive style reflects chronic tension. Despite the fact that these individuals describe themselves as having Type A traits, they also exhibited a cognitive style associated with reduced orientation toward autonomous achievement striving and a greater need for the external guidance, perhaps in an attempt to deny or repress their underlying passive, dependent tendencies. Such considerations become important in examining coping and defending styles and their impact on stress.

Coping and Defending

A careful look at coping and defense mechanisms is needed because people use coping and defending styles to perceive and

react to the world emotionally. This has been found to affect their physical health, as evidenced by the psychophysiology literature.

Pearlin and Schooler (1978) gathered information about coping responses and psychological attitudes through scheduled interviews with a sample of 2,300 subjects representative of the Chicago area census. The final sample had an equal number of males and females, and an age group ranging from 18 to 65 years of age was used in order to employ subjects at various stages of their careers. The interviews yielded three distinct types of information about (1) potential life strains such as conflicts and frustrations, (2) coping responses employed to deal with stressors, and (3) perceived emotional stresses. Using factor analysis, major themes were identified from listed stressors, including three involving marriage, three involving parenting, and four involving occupations.

The researchers defined psychological resources as those parts of personality that help individuals withstand threats in their environment. Such psychological resources define how people function. Coping responses are different than psychological resources in that they comprise what people do to deal with environmental stressors. In the study, the authors identified three relevant coping responses. The first, changing the stressful situation, is the most effective way of dealing with stressors, as it acts to eliminate the cause of stress. Although such a response appears

react to the world emotionally. This has been found to affect their physical health, as evidenced by the psychophysiology literature.

Feistlin and Schaefer (1975) gathered information about coping responses and psychological attitudes through a self-administered questionnaire with a sample of 2,300 subjects representing five of the United States census. The final sample had an equal number of males and females, and an age group ranging from 17 to 65 years of age was used in order to employ subjects at various stages of their careers. The interviews yielded three distinct types of information about (1) potential life stressors such as conflicts and frustrations, (2) coping strategies employed to deal with stressors, and (3) perceived emotional distress. Using factor analysis, major themes were identified from listed stressors, including three involving marriage, three involving parenting, and four involving employment. The researchers defined psychological resources as those parts of personality that help individuals withstand threats in their environment. Such psychological resources define how people function. Coping responses are different than psychological resources in that they comprise what people do to deal with environmental stressors. In the study, the authors identified three relevant coping responses. The first, changing the stressful situation, is the most effective way of dealing with stressors, as it acts to eliminate the cause of stress. Although such a response appears

obvious, it was used quite infrequently by study subjects, either because the situation was not recognized as a problem or because subjects lacked the ability or knowledge to change environmental circumstances; some attempted to change their situation by substituting one stressor for another.

A second coping response, in which coping does not succeed in changing the situation, is altering the meaning of the problem through rationalizing, selectively ignoring or making the situation less important, and substituting other rewards. The third type of coping function manages stress attitudinally. Examples here are beliefs that "time will change everything," "everything works out for the best," and similar reassurances.

Pearlin and Schooler found that occupationally, the most effective way of coping involves the manipulation of goals and values. People unable to control stress in their occupations will devalue the importance of their work, withdrawing psychologically from that environment. Such devaluation and withdrawal differed from the techniques found to be effective in the areas of marriage, parenting, and household economics, where mastery and positive self-esteem were important means of coping. In all areas, stress was found to be the result of self-denigration more than any other personality factor. Individuals' attitudes about their work environment were also found to be important factors in creating possible stress.

In order to determine which is more efficacious, personality characteristics (including psychological resources such as self-denigration, mastery, and self-esteem) or specific behavioral responses to specific role situations, Pearlin and Schooler put summary scores in a regression analysis. The results indicated that occupational stress management is more amenable to the psychological resources of the person than to specific coping responses. The results also indicated that while psychological characteristics are important in dealing with environmental stressors at work, what one does matters more in interpersonal relationships. The authors suggest that future studies should look not only at what people do for coping efficacy but the situations in which they do it as well, for coping mechanisms vary in different role situations.

Freud, as early as 1911, recognized that people respond to threat by defending against it, in order to protect the sphere of the ego. His theory on ego functioning and the use of defenses has since been expanded upon by Anna Freud (1936) and many others. Freud used the terms "conscious" and "ego" interchangeably. The ego develops as the organism changes from primary process, which is the infant's need for immediate gratification, to secondary process, where thought, perception, memory, language, and delay are incorporated into the structures of the young child through the normal process of growth and development. The ego, in incorporating these functions, acts to mediate the perception and comprehension

of external and internal stimuli. It responds to anxiety and conflict by employing countercathartic energy to keep these stressful stimuli out of consciousness through the use of defenses. The ego, then, can be seen as a mediator of the external world and its demands, and its internal frame of reference. Defenses are used in this capacity to lessen the discrepancy between these two realities (Blank & Blank, 1974).

Conflict, anxiety, and their defenses are often resolved through repression but may reproduce the stress in the disguised form of a symptom (Blank & Blank, 1974). Continued use of defenses suggests a stressed state in the individual with psychosomatic illness or conversion reactions, possible long-term side effects.

Lazarus (1966), although not a psychoanalyst, incorporates the roles of the ego and perceived threat to the system in his theory. He defines psychological stress as a result of cognitive appraisal of the threat, which must be anticipated or future-oriented, and result from the processes of perception, learning, memory, judgment or inference, in which data are assimilated to assume ideals and expectations. Ambiguous stimuli require the processing of belief systems about the organism and its environment. Personality variables such as trait anxiety and self-esteem come into play here, in that they affect the appraisal of the threat. The level of anxiety experienced and one's self-esteem contribute to the appraisal of threat. A person with high self-esteem who is not experiencing anxiety will perceive stress as less

threatening to the system than a person with low self-esteem who is experiencing anxiety.

Anticipation of stress is best explained by the Shannon, Szmyd and Prigmore (1962) study, which showed that anticipation of dental procedures resulted in marked adrenal cortex stress responses.

This finding further solidifies our concept that the anticipation of oral surgery stimulates the adrenal cortex. It was further evident that in groups of patients scheduled for different oral surgical procedures, higher steroid concentrations were present in those subjects scheduled for more complicated operations. Since the pituitary-adrenal system is generally stimulated under conditions in which the integrity of the organism is threatened, it might be expected that fear or anxiety most likely would be associated with increased ACTH release and subsequent increased secretion of adrenocortical hormones. The increased pre-operative steroid levels are thus held to be the result of 'psychological stresses' incident to the anticipation of undergoing oral surgery. (p. 3)

It is evident that once a stimulus has been perceived as threatening, coping mechanisms act to deal with the stress. Coping is based on cognitive activity involving appraisal of the conditions of threat which will result in the coping response. Lazarus defines defense as a part of the coping process in which individuals psychologically deceive themselves about the actual conditions of threat. Defenses act to distort the threatening experience so that it appears less dangerous to the organism. Lazarus thus views coping and defending as one process. Coping is not a threat, but an appraisal of the situation. When necessary, the individual responds defensively for experiences to appear less threatening.

If a person does not perceive that danger exists, then no stress reaction will be evident. Hinkle (1974) analyzed the personality factors distinguishing people who were rarely ill from those with frequent illnesses. He suggests that those who remain healthy show a lack of concern for other people and life goals, and lack of involvement in life affairs.

The healthiest members of our samples often showed little psychological reaction to events and situations which caused profound reactions in other members of the groups. The loss of a husband or wife or a failure to attain apparently important goals produced no profound attachment to people, goals or groups. . . [they] behaved as if their own well being were one of their primary concerns. An employed man or woman might refuse a promotion because he, [or she] did not want the increased responsibility, refuse a transfer because it was too much trouble. . . . As family members, such people might refuse to take the responsibility for an aged or ill parent or sibling, giving as an explanation a statement implying that it would be "too much for me." (pp. 40-41)

These individuals appear to be using their defenses to protect themselves from threatening life experiences. If no appraisal of stress is made, then coping and the physiological responses to the threat will not occur. If the stress is appraised, however, then coping strategies and physiological mechanisms come into play.

Haan (1977) reinterprets and adds to the psychoanalytic theory of the ego's efforts to modify conflict through its defensive role. For example, psychoanalysts recognize the adaptive defenses of sublimation and substitution as a healthy means of gratifying primitive impulses. Haan defines these healthy adaptations and others as coping. She views coping mechanisms as consistent with healthy ego functioning,

whereas defenses are perceived as a threat to the ego. Haan also differs from Lazarus in believing that coping and defending are on a continuum and use similar mental processes. She lists a variety of ego mechanisms with defensive and coping modes (as well as a "fragmented" mode). The coping modes include objectivity, intellectuality, logical analysis, tolerance of ambiguity, empathy, regression in the service of the ego, concentration, sublimation, substitution and suppression. The defensive mechanisms of the ego which serve to distort reality are isolation, intellectualization, rationalization, doubt, projection, repression, denial, displacement, reaction formation and regression. An example of the continuum may be represented by the coping mode of objectivity, which enables one to separate ideas from feelings to achieve objective evaluations, versus its defensive counterpart, isolation. When isolation is used as a defense, the subject is unable to integrate ideas and the affect does not appear related to ideas. Similarly, intellectuality is the ability to detach oneself in an affect-laden situation which requires impartial analysis. This coping mechanism's defensive counterpart is intellectualization, which involves the use of words and abstractions to retreat from affect. Coping, then, involves purpose and choice and enhances appropriate expression of affect. Defenses are more rigid, distorting and negating appropriate affective expression.

Haan groups psychological reactions to stress by whether they are assimilated or accommodated by the ego. The

Piagetian technique of assimilation is employed when an organism utilizes something from its environment and incorporates it. Accommodation results when the ego structure is changed by the input. Assimilation responses are the result of:

1. not anticipating the stressful event,
2. differential expectations,
3. ambiguous situations,
4. individuals believing they will be stressed,
5. a situation thought to be similar to one previously not handled well,
6. an individual being in a depleted state when the stress occurs,
7. lack of information necessary to process the situation.

Accommodation is the result of:

1. inability to control the stress,
2. prolonged stress,
3. intense stress,
4. continual exposure to varied stresses,
5. little previous experience in dealing with stress.

These responses arise because people have different coping responses as a result of varied childhood ego development, differential interpretations of situations (cognitive processing may trigger different associations or emotions), and because some have more support systems than others. For Haan, then, intervention should focus on coping mechanisms and concomitant affect (Haan, 1977).

Empirical evidence supports the proposition that increases in defensive behavior are related to threat and stress reactions (Fenz & Epstein, 1962). Lazarus and others (1962) showed that when denial and intellectualization were used defensively, subjects showed lower levels of stress response, including autonomic levels of arousal. These data support the contention that the way in which a person appraises and copes with an environmental stressor has an important bearing on the emotional and adaptational outcome and further indicate that defensive functioning is successful in a variety of stressful situations. For example, a seriously ill patient who denies or ignores a diagnosis and is not willing to accept the possibility of death, may fare better psychologically and physically than one who accepts and succumbs (Gentry, Foster & Harvey, 1972). Carl Rogers also has acknowledged that a closed, well-defended person is likely to cope with stress better than his ideal of the open, sensitive person (see Bergin & Strupp, 1972, p. 316).

Hormonal secretions also appear to be related to the success of coping mechanisms. Friedman, Mason and Hamburg (1963) studied parents whose children had incurable cancer. Two defensive subjects (one father and one mother) living on the ward and two defensive subjects living at home were compared to a group of parents whose children were hospitalized for cancer. The parents were observed and their urine specimens taken frequently during the children's hospitalization. Although there were noticeable increases

in threatening events, urinary excretion of hydrocortizone remained remarkably stable during the period. Friedman et al. suggest that levels of hormonal secretion seemed to be dependent on the success of the parent's defensive (coping) ability. Thus, hormonal stress reactions are not increased when psychological defenses serve to protect the individual from environmental stress.

Holistic Theory

Rogers (1960) discusses the rationale behind holistic theory which holds illness to be a complex concept that incorporates multiple physical and emotional stresses.

There is growing suspicion that many a focus of pathology heretofore considered as the specific consequence of a specific cause may not be so at all. . . . Thus, we are led to the concept of multiple causation of illness. This concept maintains that illness is rarely the result of the impact of a single, discrete, disease-causing agent (such as the tubercle bacillus) upon an otherwise normal and healthy man. Rather, it holds that most, if not all, illness is an expression of a basic unbalance in man's physiological adaptation to multiple physical and emotional stresses that are initiated, for the most part, in the condition of his external environment.

Thus, how individuals perceive and evaluate information from their environment influences thought processes, diet, and muscular activity. Attitudes also play a part because they reflect an individual's feelings and beliefs about other persons, objects, events and activities, and are developed over time, as are diet, the use of physical exercise, and the ability to relax (Girdano, 1979). Certain attitudes influence life styles which may contribute to the development

of disease (Friedman & Rosenman, 1974). The holistic approach to stress takes into account life styles and attitudes about living, including attitudes about diet and physical exercise, as well as methods of coping and attaining psychological well-being. All of these contribute to perceptions of stress and its management.

Nutrition

Nutrition is the relationship of foods to the health of the human body, and proper nutrition is defined as the intake of an adequate balance of all the essential nutrients in order to promote health. It has long been established that an improperly balanced diet will lead to nutritional deficiencies, with resultant ailments. Fats, carbohydrates and proteins, for example, are essential sources of energy. Failure to ingest proper amounts of these nutrients will result in stress and possible death. Good quality diets, then, which are relatively high in protein and vitamin components are in harmony with optimal health. The converse parallels an increased incidence and severity of disease.

Today germs are not our principal enemy. Our chief medical adversary is what I consider a disturbance of the inner balance of the constituents of our tissues, which are built from and maintained by necessary chemicals in the air we breathe, the water we drink and the food we eat. For a generation we have worked on the concept that our cells are never static and that in time must be replaced in varying degrees by the nutrients obtained from food. More specifically, our working hypothesis has been that all disease is chemical and when we know enough, chemically correctable. (Spies, 1958, p. 675)

Turning from the essential components of food necessary to maintain health, there are others that represent a hazard to healthy functioning. Caffeine is an ingredient found in coffee, tea, cola and chocolate. The use of caffeine raises nutritional concerns because of its pharmacological actions. This popularly consumed drug stimulates the central nervous system, heart, kidneys, lungs and arteries, as it is totally absorbed into the blood stream and carried throughout the body and brain. With 100 to 200 mg of caffeine (the equivalent of one to two cups of coffee), the brain easily becomes stimulated. The spinal cord is the next target for larger doses. Although behavioral signs suggest increased mental alertness due to an increase of blood pumped to the heart, caffeine actually decreases blood flow to the brain by constricting the cerebral blood vessels (Julien, 1978), with the end result being more work for the heart, thereby creating more stress. Evidence also indicates potentially deleterious effects of caffeine stimulation at the fetal level of development (Goldstein, Aaronow & Kalmen, 1968).

Nicotine is also a widely used psychoactive agent that stimulates the central nervous system and cerebral cortex, producing increased levels of anxiety. Nicotine, like caffeine, acts to stimulate the brain but is actually a long term depressant of the nervous system. Normal use of nicotine also increases heart rate and blood pressure, acting to stimulate the heart, increase its work load and create more stress. Other effects of smoking include strain on the

vascular system, the formation of blood clots, chronic toxicity, and a positive correlation with lung cancer (Julien, 1978).

The intake of meat may also have deleterious effects on the body. It is controversial at this time whether excessive consumption of meat, as a form of protein, serves to overstimulate the sympathetic nervous system. The amino acid found in meat, tyrosine, is transformed into Dopa, dopamine, and norepinephrine. Julien (1978) suggests that neurons containing these transformed amino acids (mainly norepinephrine) are associated with arousal reactions. He believes that norepinephrine acts to trigger the sympathetic nervous system, which releases epinephrine and creates intense emotional experiences in the peripheral nervous system. His theory suggests that excessive meat intake creates an imbalance in the biological system, not unlike those which occur during particularly stressful periods. For example, Dimsdale and Moss (1980) studied plasma catecholamine levels obtained during the initial moments of public speaking. The researchers found that both norepinephrine and epinephrine increased significantly at these times. The increase of epinephrine was particularly striking, in effect serving to keep the speaker in a "stressed" state. These chemical effects appear to be similar to those subsequent to excessive meat consumption.

The effects of excessive sugar intake and resulting hypoglycemia on the body have already been discussed as a

cause of high blood pressure and ischemic heart disease. This simple carbohydrate and its increased consumption is noteworthy because of its deleterious effects on the system.

The relationship of diet to disease is based on the notion that health and sickness are the result of many interacting factors. When a host succumbs to one or more of the many environmental influences, low resistance or high susceptibility to disease is likely. Diet can serve in various ways to modify the host state so that nutrients may increase resistance. Conversely, the lack of nutrients can serve to decrease resistance and exaggerate susceptibility to disease.

Physical Exercise

A healthy body is the result of proper nutrition combined with a regular program of exercise. Exercise improves the tone and quality of muscle tissue and stimulates the processes of digestion, absorption, metabolism and elimination. It also strengthens blood vessels, lungs, and heart, resulting in improved transfer of oxygen to the cells and increased circulation to the blood and lymph systems.

Blumenthal et al. (1980) found evidence that a supervised program of regular exercise can successfully modify the physiological and psychological variables associated with increased risk for coronary heart disease in a nonclinical sample of healthy adults. Subjects enrolled in a ten-week fitness program were judged to be free of overt cardiovascular disease, as determined by medical history, physical exam, and electrocardiogram. The testing included physiological

measures of blood pressure, serum lipids, body weight, plasminogen activator release in the blood, and treadmill performance. Psychological measures included the Jenkins Activity Survey to determine Type A/B behavior patterns and a survey developed from the Friedman and Rosenman interview schedule. Testing was done in the two weeks prior to and in the two weeks after a ten week program of physical conditioning.

The conditioning program utilized by Blumenthal et al. was 10 minutes of stretching exercises followed by 30 to 45 minutes of continuous walking/jogging (approximately three miles) three times a week for 10 weeks. The subjects were also encouraged to limit their dietary intake of total calories, salt, cholesterol and saturated fats. A general improvement in overall physical condition was documented by significant increases in treadmill performance by the entire group; significant reductions in blood pressure and weight were observed, as well as significant increases in plasminogen activator release and high density lipoproteins.

Clausen (1977) and Saltin, Bloomquist, Mitchell, Johnson, Wildenthal and Chapman (1968) also documented the utility of physical exercise in reducing blood pressure, blood lipids, and resting heart rate, strengthening lungs and heart, and reducing the risk of heart disease. Additionally, Blumenthal and his colleagues were the first to provide evidence that the Type A behavior pattern may be modified by participation in a regular exercise program. These researchers demonstrated

a reduction of Type A behaviors in conjunction with their fitness program. Although their findings are limited by their failure to use a control group, they have provided valuable evidence suggestive of a link between Type A behavior patterns and the future occurrence of coronary heart disease in healthy individuals.

The relationship between moderate forms of activity as compared to a sedentary role has been studied by Miller et al. (1970) who found more adrenal cortical stress responses in pilots actively engaged in aircraft carrier landing practice than in radar intercept officers who have more of a passive role in the operation. The radar intercept officers reported more somatic complaints and anxiety; the more active pilots evidenced greater physiological activity and fewer reports of psychological distress. This finding of this study indicates that active physical involvement may be seen as a coping strategy to reduce perceived stress.

Psychological Coping and Defending

The concept of coping is used to refer to any response to external life stressors that serves to prevent, avoid, or control emotional distress. As an individualized defense against threats in specific situations, coping involves responses to both environmental and internal emotional stressors by appraising the threat and responding to it (Lazarus, 1966). Defenses serve to protect the ego against unrest. Regression, repression, reaction formation, isolation

undoing, projection, introjection, turning against self, intellectualization, sublimation, displacement and denial are many of the popular defenses the psyche uses to protect itself from perceived threat or emotional distress, at times acting unconsciously (Haan, 1977).

Gentry, Foster and Harvey (1972) suggest that defensive functioning may be adaptive, designed to deal with a stressful situation. Hinkle's (1974) research indicates that this mode of functioning may be less situational and more of an overall personality characteristic. He compared the personality variables of healthy people to those with frequent physical illness. Those who remained healthy showed a lack of concern for others, life goals, and involvement in life affairs.

Lazarus et al. (1962), Fenz and Epstein (1962) and others have shown that defenses are inversely related to threat and ultimately to the stress reaction on the body. Defenses, then, serve to prevent the emotional correlates of vulnerability, depression, and possible decompensation.

As part of a holistic model, then, it is necessary to examine coping and defending styles, as they determine how an individual will perceive and react to the environment. Nutritional intake and physical exercise are often overlooked as important determinants of stress, or, they are seen individually as a contributor to stress. The holistic model emphasizes that coping and defending styles, nutritional intake and physical exercise cannot be separated; it is their integration which makes the person and determines how an individual responds to the stresses of everyday life.

CHAPTER III

DESIGN OF THE STUDY

The population and sample, research procedures, hypotheses, instrumentation necessary to collect the data, data analysis, and experimental design will be discussed in this chapter.

Sample and Population

Research subjects were people who telephoned in response to radio, newspaper advertisements and public service messages about a stress management workshop offered free of charge to the Greater Lansing Community.

At the time of the first phone contact subjects were told that the workshop was part of a research project. They were informed that they would be randomly assigned to one of two groups at the first meeting; one group would meet over the next five weeks, the second would begin five weeks later for the same five-week treatment. Subjects were also told that they would be tested on two or three occasions. All respondents were then told a date, time, and place to meet on the Michigan State University campus.

A total of 38 phone contacts were made, with 36 subjects present for the pretest session. One subject decided he could not participate at that time and, thus, the final sample at

pretest was comprised of 35 subjects, 14 of whom were males and 21 females. Ages ranged from 20 to 64, with a mean of 38.6 years. Almost all subjects were employed and were well established in their careers as executives for the state government, Oldsmobile, or other large corporations. There were also secretaries, teachers, students, cardiac rehabilitation patients and retirees (see Tables 4, 5, 6, and 7.)

TABLE 4

AGE DEMOGRAPHICS OF SUBJECTS

| Age Group | Number of Subjects |
|-----------|--------------------|
| 20-29 | 8 |
| 30-39 | 14 |
| 40-49 | 2 |
| 50-59 | 9 |
| 60-69 | <u>2</u> |
| Total | 35 |

TABLE 5

SEX DEMOGRAPHICS OF SUBJECTS

| Sex | Number of Subjects |
|---------|--------------------|
| Females | 21 |
| Males | <u>14</u> |
| Total | 35 |

TABLE 6

URBAN OR RURAL ENVIRONMENTS OF SUBJECTS

| Environment | Number of Subjects |
|-------------|--------------------|
| Urban | 30 |
| Rural | <u>5</u> |
| Total | 35 |

TABLE 7

OCCUPATIONAL DATA OF SUBJECTS

| Occupation | Number of Subjects |
|-------------------|--------------------|
| State government | 8 |
| Business managers | 4 |
| Teachers | 4 |
| Secretaries | 3 |
| Students | 5 |
| Retirees | <u>6</u> |
| Total | 35 |

Procedures

In the first meeting, all telephone respondents met at the same time and place for the purposes of pretesting and random assignment to groups. All subjects were pretested with the same instruments, which are described in further detail in this chapter. All testing instruments were paper-and-pencil, except for blood pressure readings. At the conclusion of the pretesting period, subjects were randomly assigned to one of two groups. One group was asked to return at the same time and place on a particular date six weeks

later. The treatment group then met in the same room for the next five weeks, in which five three-hour sessions were held on the same day of the week, time, and place. On the sixth week, all subjects were posttested. For the next five weeks, the second group then received the same treatment under the same conditions, and were posttested again.

In order to hold testing procedures constant, the same day of the week, time and room were maintained throughout the workshop period. All testing instruments were the same pre- and posttesting, and were administered in the same format. The room used at all times was a classroom on the MSU campus with a capacity for forty people. Seating consisted of 40 desk-chairs. A blackboard and overhead projector were available as an aid to the instructor.

The two workshops were conducted by the same instructor in order to maintain consistency of treatment. For the same reasons, the same nurse was maintained throughout the workshops and testing intervals. The nurse was told that there would be two five-week stress management workshops and three testing intervals, for which blood pressure readings would be needed. She was paid an agreed-upon sum of five dollars per hour compensation. In order to have their blood pressure taken, subjects were asked to quietly, one-by-one go to the back of the room. Subjects sat in a chair, and after one minute of rest, the reading was taken from their right arm. The nurse had a card on each subject, for which she recorded the readings on a weekly basis.

The design described above is a Pretest/Posttest Control Group Design with randomization:

Pretest/Posttest Control Group Design

| | | | | | |
|---|----------------|---|----------------|---|----------------|
| R | O ₁ | X | O ₂ | | |
| R | O ₁ | | O ₂ | X | O ₃ |

Where:

R = Randomization

O₁ = Observation 1, or pretest (all subjects)

X = Five-week treatment

O₂ = Observation 2, or first posttest (all subjects)

O₃ = Observation 3, or posttest after control group received five-week treatment.

The independent variables in this study were those of nutrition, physical exercise, and psychological coping and defending mechanisms. A curriculum was devised from the literature review of this dissertation, with articles to supplement and support the information presented. Care was taken to maintain the subjects' interest. Participation from the subjects was encouraged and easily obtained.

In order to describe the contents of the workshop, a summary is presented. "What is Stress?" was the focus of the first week. Hans Selye's definition of stress was discussed, along with the concept of "wellness." Definitions and illustrations of atherosclerosis, arteriosclerosis, myocardial infarction, and blood pressure were presented so that participants might understand the relationship between

stress and heart disease. The psychophysiology of stress, with a focus on the autonomic system was also presented with the use of visual aids.

In the second week, small groups of approximately five each were formed for participants to discuss when, where, why, and with whom stress occurs in their lives. These findings were then discussed as a large group. Internal and external sources of stress were identified as an outcome of this process. The Holmes and Rahe Social Adjustment Scale was administered as an aid to the above. Time was available for reactions to this scale.

In the third week, Type A personality and heart disease was discussed, with reference made to Freidman and Rosenman's research. Indicators for Type A personality and suggestions for changing these behaviors were part of this session. Psychological coping and defending were also discussed, with a review of defensive and coping styles.

The fourth week was based on self-help techniques, with a description of biofeedback, meditation, concentration, and deep relaxation. All subjects participated in a forty-minute relaxation procedure.

The importance of physical exercise and a well-balanced diet were the topics for the fifth week. A consultant came to both workshop groups and showed subjects how to do aerobic exercises, in which they participated. Practical nutritional information was also discussed, such as the importance of the essential nutrients, the effects of alcohol and caffeine on

the nervous system, habits revolving around the buying, cooking and eating of food.

The conclusion of the workshop served the purpose of integrating the information presented to support the holistic approach to stress management.

Hypotheses

The hypotheses of this study follow from the purpose of the study. The dependent variables, measuring coping and defending behaviors, are scales from Norma Haan's Coping Inventory, the Millon Behavioral Health Inventory and scales from the Minnesota Multiphasic Personality Inventory. Nutritional intake and physical exercise variables were measured using a checklist. In addition, blood pressure readings were recorded as a dependent physiological variable.

- | | |
|--------------------------|---|
| Null Hypothesis I: | There is no difference in posttest scores between the treatment and control groups on the dependent variable emotional disorder (MMPI). |
| Alternate Hypothesis I: | The treatment group will show a decrease in posttest scores as compared to the control group on the dependent variable emotional disorder (MMPI). |
| Null Hypothesis II: | There is no difference in posttest scores between the treatment and control groups on the dependent variable ego strength (MMPI). |
| Alternate Hypothesis II: | The treatment group will have an increase in posttest scores as compared to the control group on the dependent variable ego strength (MMPI). |

- Null Hypothesis III: There is no difference in posttest scores between the treatment and control groups on the dependent variable basic coping scales (Millon Behavioral Health Inventory).
- Alternate Hypothesis III: The treatment group will have a decrease in posttest scores as compared to the control group on the dependent variable basic coping scales (Millon Behavioral Health Inventory).
- Null Hypothesis IV: There is no difference in posttest scores between the treatment and control groups on the dependent variable psychogenic attitudes scales (Millon Behavioral Health Inventory).
- Alternate Hypothesis IV: The treatment group will have a decrease in posttest scores as compared to the control group on the dependent variable psychogenic attitude scales (Millon Behavioral Health Inventory).
- Null Hypothesis V: There is no difference in posttest scores between the treatment and control groups on the dependent variable Haan's coping scales.
- Alternate Hypothesis V: The treatment group will have an increase in posttest scores as compared to the control group on the dependent variable Haan's coping scales.
- Null Hypothesis VI: There is no difference in posttest scores between the treatment and control groups on the dependent variable Haan's defensive scales.
- Alternate Hypothesis VI: The treatment group will have a decrease in posttest scores as compared to the control group on the dependent variable Haan's defensive scales.

1. The first group of people
2. The second group of people
3. The third group of people
4. The fourth group of people
5. The fifth group of people
6. The sixth group of people
7. The seventh group of people
8. The eighth group of people
9. The ninth group of people
10. The tenth group of people

11. The eleventh group of people
12. The twelfth group of people
13. The thirteenth group of people
14. The fourteenth group of people
15. The fifteenth group of people
16. The sixteenth group of people
17. The seventeenth group of people
18. The eighteenth group of people
19. The nineteenth group of people
20. The twentieth group of people

21. The twenty-first group of people
22. The twenty-second group of people
23. The twenty-third group of people
24. The twenty-fourth group of people
25. The twenty-fifth group of people
26. The twenty-sixth group of people
27. The twenty-seventh group of people
28. The twenty-eighth group of people
29. The twenty-ninth group of people
30. The thirtieth group of people

31. The thirty-first group of people
32. The thirty-second group of people
33. The thirty-third group of people
34. The thirty-fourth group of people
35. The thirty-fifth group of people
36. The thirty-sixth group of people
37. The thirty-seventh group of people
38. The thirty-eighth group of people
39. The thirty-ninth group of people
40. The fortieth group of people

41. The forty-first group of people
42. The forty-second group of people
43. The forty-third group of people
44. The forty-fourth group of people
45. The forty-fifth group of people
46. The forty-sixth group of people
47. The forty-seventh group of people
48. The forty-eighth group of people
49. The forty-ninth group of people
50. The fiftieth group of people

51. The fifty-first group of people
52. The fifty-second group of people
53. The fifty-third group of people
54. The fifty-fourth group of people
55. The fifty-fifth group of people
56. The fifty-sixth group of people
57. The fifty-seventh group of people
58. The fifty-eighth group of people
59. The fifty-ninth group of people
60. The sixtieth group of people

61. The sixty-first group of people
62. The sixty-second group of people
63. The sixty-third group of people
64. The sixty-fourth group of people
65. The sixty-fifth group of people
66. The sixty-sixth group of people
67. The sixty-seventh group of people
68. The sixty-eighth group of people
69. The sixty-ninth group of people
70. The seventieth group of people

71. The seventy-first group of people
72. The seventy-second group of people
73. The seventy-third group of people
74. The seventy-fourth group of people
75. The seventy-fifth group of people
76. The seventy-sixth group of people
77. The seventy-seventh group of people
78. The seventy-eighth group of people
79. The seventy-ninth group of people
80. The eightieth group of people

- Null Hypothesis VII: There is no difference in posttest scores between the treatment and control groups on the dependent variable systolic blood pressure.
- Alternate Hypothesis VII: The treatment group will have a decrease in posttest scores as compared to the control group on the dependent variable systolic blood pressure.
- Null Hypothesis VIII: There is no difference in posttest scores between the treatment and control groups on the dependent variable diastolic blood pressure.
- Alternate Hypothesis VIII: The treatment group will have a decrease in posttest scores as compared to the control group on the dependent variable diastolic blood pressure.
- Null Hypothesis IX: There is no difference in posttest scores between the treatment and control groups on the dependent variable nutrition (checklist).
- Alternate Hypothesis IX: The treatment group will have improved dietary intake in posttest scores as compared to the control group on the dependent variable nutrition (checklist).
- Null Hypothesis X: There is no difference in posttest scores between the treatment and control groups on the dependent variable physical exercise (checklist).
- Alternate Hypothesis X: The treatment group will exhibit increased physical exercise in posttest scores as compared to the control group on the dependent variable physical exercise (checklist).

Instrumentation

The holistic approach to stress management takes into account variables thought to be significant in current stress levels. Previous research has indicated that individual aspects of functioning can be measured as possible stress inducers. Many researchers, however, have not controlled for other environmental and internal variables that are also stress producing. For example, Pelletier (1977) cites environmental and cultural influences that create stress (Rosenman et al., 1979; Wolff, 1968). These include nationality, eating habits, and place of residence. Recently, nutritional factors have been suggested as stressors, with supporting evidence from physiological research (Julien, 1978; Jenkins, 1978). Julien discussed the chemical reactions triggered through excessive consumption of meat and Jenkins conducted research on the Type A personality and its association with heart disease. Robbins and Angell (1976) discuss predisposing epidemiological factors such as elevated lipoproteins, increased blood pressure, cigarette smoking, and elevated blood sugar. Clausen (1977) and Saltin, Bloomquist, Mitchell, Johnson, Wildenthal and Chapman (1968) have documented the utility of physical exercise in reducing blood pressure, blood lipids, and resting heart rate. Lazarus (1966) states that psychological stress results when one appraises threat to the system, and the research of Shannon, Szmyd and Prigmore (1962) showed how anticipation of stress resulted in adrenal cortex stress responses. These scientists have

sought specific answers in their own fields, overlooking other potentially important variables. This holistic study will, therefore, combine the concepts of nutrition, psychological coping, physical exercise, and physiological responses.

A review of the literature suggests that comprehensive understanding of coping measures and other stress indicators is still in the infancy of its development. For this reason, a variety of inventories are used in this study. The dependent variables in this study include ten measures. The emotional disorder scale and ego strength scale are derived from research on the Minnesota Multiphasic Personality Inventory. Haan has developed coping and defending scales consistent with her theory and derived from the California Psychological Inventory and the MMPI. Another inventory used in measuring psychological coping is based on Theodore Millon's theory and research, whose psychogenic attitude scales are used in this study to determine the level of psychosocial stressors, and basic coping scales provide information about personality styles. Physiological measures include systolic and diastolic blood pressure readings. Nutritional intake and physical exercise patterns are measured from the behavioral checklist. All the subjects were tested at pretest, posttest I, and the second group at posttest II phases of the study.

The instruments and their content, reliability, and validity are as follows:

1. Behavioral Checklist--consisting of items relating to nutrition, psychological coping, and physical exercise. Food

group intake and physical exercise patterns were measured from this checklist. The Cronbach Alpha interitem reliability for the total checklist is .74. A pilot study was performed prior to the use of the checklist on a similar sample.

2. Coping Scales--developed by Norma Haan. These coping and defense scales are derived from the Minnesota Multiphasic Personality Inventory (MMPI) and California Psychological Inventory (CPI). They have a mean reliability of .70 based on the Kuder-Richardson formula, and are validated with the CPI and MMPI. Coping tended to be positively correlated to the standard scales and defense was negatively correlated on the CPI. Haan refined the scales using a larger sample and cross-validation data. Validity coefficients were lower, but more consistent, ranging from .21 for denial to .57 for intellectuality. The scales follow from Haan's theory and research on ego development. Haan believes that coping is a normative mode to the extent that an individual can deal with internal and environmental situations. If the person's perceptions are beyond assimilatory or accommodatory capability, defenses are used to distort reality. The coping scales and their defending counterparts are as follows:

Objectivity--the ability to separate ideas from feelings to achieve objective evaluations.

Isolation--when the subject is unable to put ideas together and affect does not appear related to ideas.

Intellectuality--using many words and abstractions to retreat from the use of affect.

Intellectualization--the analysis of a problem in purely intellectual terms in order to avoid or defend from the related affect.

Logical Analysis--a systematic organization of personal and environmental situations.

Rationalization--explaining and justifying behaviors.

Tolerance of Ambiguity--coping with cognitive and affective stimuli and tolerating complex negative and positive feelings toward others.

Doubt--when one is unable to resolve ambiguity. The subject doubts his own perceptions and judgments and is unable to make up his mind.

Empathy--when the subject is able to imagine how another person thinks and feels.

Projection--Attributing an objectional tendency to another person instead of recognizing it as part of oneself.

Regression in the service of the ego--using preconscious functioning in a flexible way and in a form of play or humor.

Regression--resorting to demanding, dependent, non-age appropriate behavior to avoid responsibility, aggression and demands.

Concentration--the subject is able to set aside disturbing feelings or thoughts in order to focus on the task at hand.

Denial--denying facts and feelings that are painful.

Sublimation--finding alternative channels which are socially acceptable to express more primitive affect.

Displacement--temporarily and unsuccessfully attempting to control unacceptable feelings or impulses in their original state, and altering their meaning for greater internal or external tolerance.

Substitution--expressing tempered, domesticated feelings with flexibility as a substitute to rigidity.

Reaction Formation--transforming impulses and affects into their opposites.

Suppression--controlling inappropriate feelings for the right time, place, and person. Affect is expressed when appropriate.

Repression--unconsciously and purposely forgetting.

Haan's coping scales include objectivity, intellectuality, logical analysis, tolerance of ambiguity, empathy, regression in the service of the ego, concentration, sublimation, substitution, and suppression. The defensive modes include isolation, intellectualization, rationalization, doubt, projection regression, denial, displacement, reaction formation, and repression. The coping mechanisms represent normative modes of functioning, the defensive operations are used in response to threat to the system.

3. Selected MMPI Scales--emotional disorder (Ed) and ego strength (Es) scales. The emotional disorder scale is very closely related to the Health Opinion Survey (HOS) formulated by Dohrenwend and Dohrenwend (1969). The HOS focuses on psychosomatic complications arising from emotional disorders of anxiety or depression. The Ed scale is most sensitive to emotional distress, anxiety, guilt, and self-alienation.

This scale has moderately high positive correlations with the MMPI faking scale (F) (.66) and negative correlations with Lie (L) (-.23) and K (-.61). It also correlates positively with depression, psychoasthenia, schizophrenia, and other MMPI clinical scales.

The ego strength (Es) scale measures psychological adaptation and emotional disturbances or psychiatric disorders. Spiegel (1969) found the Es scale to be the single best MMPI predictor separating psychological health in nonpathological subjects from severe psychopathology in hospitalized psychometric cases.

Roessler et al. (1963) found that subjects who were relatively free of serious psychopathology, as identified by a high Es scale, used less effort in the moment-to-moment control of homeostatic processes and, as a result, these psychologically healthy subjects were able to respond promptly, appropriately, and effectively to new demands made on adaptational defenses arising from environmental or immunological situations. Roessler (1966, 1967) also found that subjects high in ego strength (as measured by the Es scale) can tolerate greater intensities of cold, heat, and noise, and are able to withstand higher levels of electric shock without complaint. These subjects also manifested relatively greater ranges of autonomic reaction to brief stressors.

4. The Millon Behavioral Health Inventory--this inventory was developed to provide clinical information about psychosocial attitudes and stressors, as well as physical problems.

The eight personality scales are called Basic Coping Styles and are derived from Millon's theory of personality (Millon, 1969). The Basic Coping Styles include the following scales:

Introspective Style: (32 items) High scorers are emotionally flat, quiet, and untalkative, often appearing unconcerned about their problems.

Inhibited Style: (43 items) High scorers tend to be hesitant with others and are often shy and ill-at-ease. These subjects tend to keep their problems to themselves but they do seek understanding and attention.

Cooperative Style: (33 items) High scorers tend to be eager to establish themselves with others and will follow advice closely. They may be inclined to deny the existence of problems.

Sociable Style: (40 items) High scorers tend to be outgoing, talkative and charming. They may be changeable in their likes and dislikes.

Confident Style: (33 items) High scorers act in a calm and confident manner. They are likely to fear bodily ailments and will follow a treatment plan that will ensure their well-being.

Forceful Style: (33 items) High scorers tend to be somewhat domineering, tough-minded, and somewhat distrustful.

Respectful Style: (42 items) High scorers are likely to be responsible, conforming and cooperative. They hold their feelings inside and appear well-controlled and serious-minded. These patients usually follow therapeutic

recommendations, but there is a strong tendency to deny symptoms. They do not like being sick since this signifies weakness and inefficiency.

Sensitive Style: (48 items) High scorers tend to be unpredictable and moody. These patients often seem displeased with their physical and psychological state. Mood changes seem to occur for no apparent reason.

Six psychogenic attitude scales were developed to reflect psycho-social stressors. The first two of these scales pertain to relatively objective events which have been experienced as either chronically or recently stressful. The second two relate to attitudes that intensify the subjective impact of past or future stressful events. The last two scales attempt to gauge the status of two significant sources of potential stress, interpersonal relationships and bodily functioning. The scales are as follows:

Chronic Tension: (29 items) High scorers on this scale are disposed to suffer various psychosomatic and physical ailments. These people are constantly on the go, live under self-imposed pressure, and have trouble relaxing. They are most likely to exhibit the Type A behavior pattern (Friedman & Rosenman, 1974).

Recent Stress: (20 items) High scorers on this scale have an increased susceptibility to serious illness for the year following test administration. Recent marked changes in their lives predict a significantly higher incidence of poor physical and psychological health than the population

at large (Andrew, 1970; Rahe and Arthur, 1968). This scale, then, addresses subjects' perceptions of stress in the recent past.

Premorbid Pessimism: (40 items) High scorers on this scale are disposed to interpret life as a series of misfortunes that are likely to intensify real physical and psychological difficulties. Depression is ruled out by noting characterological tendencies toward viewing the world in a negative manner on the Future Despair Scale.

Future Despair: (38 items) High scorers do not look forward to a productive future life. They view medical difficulties as seriously distressing and potentially life threatening.

Social Alienation: (33 items) This scale measures the level of familial and friendship support, both real and perceived. Cobb (1977) and Rabkin and Struening (1976) have found that level of support is a significant moderator in the impact of life stresses.

Somatic Anxiety: (34 items) High scorers tend to be hypochondriacal and susceptible to minor illnesses, experiencing an unusual amount of fear concerning bodily functions.

Six psychogenic attitude scales were developed to reflect psychosocial stressors. Six additional scales called psychosomatic correlates were empirically derived to appraise other emotional factors which complicate psychosomatic ailments or predict psychological complications.

The Millon Inventory has been validated on three dimensions: theoretical-substantive, internal-structure, and external criterion. In addition, the test was cross-validated for better generalizability. The median biserial correlation for the items on the personality scales was .47. The psychogenic attitude scales were developed on theoretical-substantive grounds. Lists were developed and rated by clinicians, with items selected by more than 75 percent of the raters included in the inventory. It was also validated externally with the MMPI, CPI, Rotter's Locus of Control, Beck's Depression Scale, the Life Events Survey, and the Webber-Johansson Temperament Survey.

Test-retest reliability on the personality scale range from .77 to .88, with a mean of .82. The psychogenic scale is .85 and the empirical scale .80.

5. Blood Pressure Responses--systolic and diastolic readings were taken by a trained practitioner at all testing intervals and at each weekly workshop meeting. All readings were taken on the right arm in a sitting position after one minute rest. Systolic and diastolic blood pressure readings were found by using a baumanometer merconical blood pressure device with a cuff and stethoscope. Diastolic blood pressure is the pressure on the vascular walls when the heart is at rest. Cattell (1966) found diastolic blood pressure to be significantly related to trait anxiety or constant stress. A higher diastolic reading reflects greater stress on the vascular walls. Systolic blood pressure refers to the pressure on

the vascular walls at the peak of the heart's thrust. Systolic blood pressure is a measure of situational stress and is therefore more labile than diastolic (Turek, Van Durkuy, Pelgrim, De Keyzer, Von Der Furh, and Voerman, 1977). Blood pressure readings have been correlated with health, with readings greater than 140/90 predictive of potential heart and kidney damage (Wheatly, 1977).

Data Analysis

Due to the large number of dependent variables used in this treatment, an attempt was made to collapse certain scales into meaningful groups, thereby reducing the possibility of reaching significance merely by chance. As the dependent variables increase, so does the possibility of accidentally achieving significance. Multivariate Analyses of Covariance were used to determine significance levels without compounding the alpha level, or increasing the probability of rejecting the null hypothesis when it is actually true.

Research Design

The Pretest/Posttest Control Group Design was used in this study. This is a true experimental design and meets Campbell and Stanley's (1963) criteria for internal validity. Equivalency of groups can be assumed through randomization and a control group is used for comparison. All subjects interested in this intervention received the treatment.

Pretest/Posttest Control Group Design

| | | | | | |
|---|----------------|---|----------------|---|----------------|
| R | O ₁ | X | O ₂ | | |
| R | O ₁ | | O ₂ | X | O ₃ |

Where:

R = Randomization

O₁ = Observation 1, or pretest (all subjects)

X = Five-week treatment

O₂ = Observation 2, or first posttest (all subjects)

O₃ = Observation 3, or posttest after control group received five-week treatment.

CHAPTER IV

ANALYSIS OF DATA

The data derived from the instruments in Chapter III and a discussion of statistical procedures used to analyze the data will comprise this chapter. Each hypothesis will be restated, with a statement as to whether its null form was supported or rejected.

Pearson product-moment correlations were performed on all pretests in order to determine if, and to what extent, relationships existed among the dependent variables. The correlations revealed that there were relationships among the dependent variables; however, the correlations were not large enough to recommend the exclusion of dependent variables due to common factor variance (see Table 8). One high correlation (.793) was found, between diastolic and systolic blood pressure, which was expected due to the physiological similarity. Diastolic blood pressure measures the rate at which blood flows through the vascular walls when the heart is at rest, while systolic pressure measures the rate of blood flow while the heart is at work. The diastolic reading is a measure of chronic stress, systolic is more sensitive to situational stress. Both measures were retained as dependent variables in order to determine if subtle differences could be found.

TABLE 8
PEARSON PRODUCT-MOMENT CORRELATION COEFFICIENTS ON PRETESTS

| | Nutrition Scale (checklist) | Psychological Coping Scale (checklist) | Physical Exercise (checklist) | Emotional Disorder (MMPI) | Ego Strength (MMPI) | Basic Coping Scale (Millon) | Psychogenic Attitude Scales (Millon) | Maan's Coping Scales | Maan's Defense Scales | Diastolic Blood Pressure | Systolic Blood Pressure |
|--|--------------------------------|--|-------------------------------------|---------------------------------|------------------------|--------------------------------|--|-------------------------|--------------------------|-----------------------------|----------------------------|
| Nutrition Scale (checklist) | 1.000 | | | | | | | | | | |
| Psychological Coping Scale (checklist) | .448 | 1.000 | | | | | | | | | |
| Physical Exercise (checklist) | .147 | .311 | 1.000 | | | | | | | | |
| Emotional Disorder (MMPI) | -.224 | -.431 | -.375 | 1.000 | | | | | | | |
| Ego Strength (MMPI) | -.046 | .025 | .519 | -.647 | 1.000 | | | | | | |
| Basic Coping Scale (Millon) | -.050 | -.233 | -.269 | .393 | -.288 | 1.000 | | | | | |
| Psychogenic Attitude Scales (Millon) | -.138 | .287 | .479 | -.539 | .577 | -.013 | 1.000 | | | | |
| Maan's Coping Scales | .189 | .116 | -.135 | .099 | -.212 | -.034 | -.268 | 1.000 | | | |
| Maan's Defense Scales | .239 | .449 | .321 | -.620 | .454 | -.114 | .513 | -.230 | 1.000 | | |
| Diastolic Blood Pressure | .200 | .295 | .006 | -.305 | .379 | -.224 | .200 | -.100 | .076 | 1.000 | |
| Systolic Blood Pressure | .083 | .040 | -.074 | -.127 | .311 | -.245 | .062 | -.244 | -.022 | .793 | 1.000 |

Multiple analysis of covariance (MANCOVA) was the method of data analysis chosen for the statistical design described in this study. This statistical procedure, like all regression analyses, expresses the statistical significance of the relationship of the treatment group as compared to the control. Multiple regression is especially useful when there are varied cell sizes, or when other variables are included for control purposes. Multiple analysis of covariance is a more sophisticated multiple regression procedure which tests the significance of the differences among means. Initial mean differences between the experimental groups on a covariate, a variable correlated with the dependent variable, are thus controlled. In this study, analysis of covariance was used to ensure equivalency of groups at pretest time; therefore pretests, and the additional variable of sex, were covaried. Sex was not tested as a main effect because it would reduce cell size to five observations in one particular cell, thereby limiting statistical inferences.

The Hotelling-Lawley Trace and Pillai's Trace tests of MANCOVA were tested for overall group effects on the following posttest dependent variables: emotional disorder, ego strength, basic coping scales, psychogenic attitude scales, Haan's coping scales, Haan's defense scales, systolic blood pressure and diastolic blood pressure, with pretest and sex serving as covariates. This MANCOVA test indicated an overall group effect [$F(8,8) = 7.01, p < .006$], meaning there was a statistically significant difference when the treatment group was

compared to the control on the dependent variable posttest scores, with pretest and sex differences adjusted. Subsequent univariate analyses were conducted on this group effect to determine which particular variables accounted for the overall significance. The psychogenic attitude scales proved significant [$F(1,15) = 34.86, p < .0001$], as well as Haan's defense scales [$F(5,15) = 11.65, p < .004$]. (See Tables 9 and 10).

Hotelling-Lawley Trace and Pillai's Trace MANCOVA tests were then applied to the checklist, with sex and pretest means again covaried. A main effect for group resulted [$F(3,18) = 3.81, p < .03$], again indicating a statistically significant difference when the treatment group was compared to the control on checklist posttest scores, with initial differences on the pretest adjusted. Subsequent univariate analyses indicated that three variables contributed to the main effect: nutrition [$F(1,20) = 8.77, p < .007$]; psychological coping [$F(1,20) = 3.50, p < .072$]; and physical exercise [$F(1,20) = 4.05, p < .057$]. (See Tables 9 and 10 for least square means).

For purposes of clarity, each hypothesis is restated below in its null and alternate form, with a subsequent statement pertaining to whether the hypothesis was maintained or rejected in the analyses of the data.

Null Hypothesis I:

There is no difference in posttest scores between the treatment and control groups on the dependent variable emotional disorder (MMPI).

TABLE 9

DEPENDENT VARIABLE POSTTEST LEAST SQUARE MEANS (COVARIED)

| Dependent Variable | Group | Least Square Mean | Standard Error Least Square Mean |
|----------------------------|-----------|-------------------|----------------------------------|
| Ego Strength | treatment | 22.905 | 1.205 |
| | control | 25.939 | 1.096 |
| Emotional Disorder | treatment | 13.675 | 0.723 |
| | control | 14.279 | 0.657 |
| Basic Coping Scale | treatment | 414.264 | 12.671 |
| | control | 426.274 | 11.523 |
| Psychogenic Attitude Scale | treatment | 322.061 | 10.895 |
| | control | 418.519 | 9.908 |
| Haan's Defensive Scales | treatment | 3.934 | 0.185 |
| | control | 4.881 | 0.168 |
| Haan's Coping Scales | treatment | 5.588 | 0.145 |
| | control | 5.402 | 0.132 |
| Diastolic Blood Pressure | treatment | 74.038 | 2.211 |
| | control | 78.539 | 2.011 |
| Systolic Blood Pressure | treatment | 115.800 | 3.095 |
| | control | 122.600 | 2.815 |
| Nutrition | treatment | 24.204 | 0.773 |
| | control | 27.542 | 0.712 |
| Physical Exercise | treatment | 10.063 | 0.906 |
| | control | 21.545 | 0.061 |
| Psychological Coping | treatment | 37.603 | 1.252 |
| | control | 40.904 | 1.150 |

TABLE 10
DEPENDENT VARIABLE PRETEST MEANS

| Dependent Variable | Group | Mean | Standard Deviation |
|----------------------------|-----------|---------|--------------------|
| Ego Strength | treatment | 24.688 | 5.665 |
| | control | 26.105 | 5.685 |
| Emotional Disorder | treatment | 14.813 | 2.373 |
| | control | 14.211 | 3.242 |
| Basic Coping Scale | treatment | 412.866 | 26.779 |
| | control | 406.684 | 67.181 |
| Psychogenic Attitude Scale | treatment | 404.600 | 111.331 |
| | control | 356.000 | 106.277 |
| Haan's Defensive Scales | treatment | 4.069 | 0.581 |
| | control | 4.199 | 0.509 |
| Haan's Coping Scales | treatment | 5.381 | 0.568 |
| | control | 5.519 | 0.608 |
| Diastolic Blood Pressure | treatment | 76.133 | 9.731 |
| | control | 82.737 | 13.068 |
| Systolic Blood Pressure | treatment | 123.869 | 17.840 |
| | control | 123.316 | 19.209 |
| Nutrition | treatment | 25.313 | 5.023 |
| | control | 27.789 | 5.138 |
| Physical Exercise | treatment | 20.375 | 3.243 |
| | control | 20.526 | 4.647 |
| Psychological Coping | treatment | 39.313 | 4.362 |
| | control | 41.158 | 4.349 |

Alternate Hypothesis I: The treatment group will show a decrease in posttest scores as compared to the control group on the dependent variable emotional disorder (MMPI).

$F(1,15) = .31, p < 0.5855$

The null hypothesis was not rejected.

Null Hypothesis II: There is no difference in posttest scores between the treatment and control groups on the dependent variable ego strength (MMPI).

Alternate Hypothesis II: The treatment group will have an increase in posttest scores as compared to the control group on the dependent variable ego strength (MMPI).

$F(1,15) = 2.82, p < 0.1139$

The null hypothesis was not rejected.

Null Hypothesis III: There is no difference in posttest scores between the treatment and control groups on the dependent variable basic coping scales (Millon Behavioral Health Inventory).

Alternate Hypothesis III: The treatment group will have a decrease in posttest scores as compared to the control group on the dependent variable basic coping scales (Millon Behavioral Health Inventory).

$F(1,15) = .40, p < 0.5369$

The null hypothesis was not rejected.

Null Hypothesis IV: There is no difference in posttest scores between the treatment and control groups on the dependent variable psychogenic attitudes scales (Millon Behavioral Health Inventory).

Alternate Hypothesis IV: The treatment group will have a decrease in posttest scores as compared to the control group on the dependent variable psychogenic attitude scales (Millon Behavioral Health Inventory).

$F(1,15) = 34.86, p < 0.0001$

The null hypothesis was rejected for its alternate.

Null Hypothesis V: There is no difference in posttest scores between the treatment and control groups on the dependent variable Haan's coping scales.

Alternate Hypothesis V: The treatment group will have an increase in posttest scores as compared to the control group on the dependent variable Haan's coping scales.

$F(1,15) = .72, p < 0.4088$

The null hypothesis was not rejected.

Null Hypothesis VI: There is no difference in posttest scores between the treatment and control groups on the dependent variable Haan's defensive scales.

Alternate Hypothesis VI: The treatment group will have a decrease in posttest scores as compared to the control group on the dependent variable Haan's defensive scales.

$F(1,15) = 11.65, p < 0.0038$

The null hypothesis was rejected for its alternate.

Null Hypothesis VII: There is no difference in posttest scores between the treatment and control groups on the dependent variable systolic blood pressure.

Alternate Hypothesis VII: The treatment group will have a decrease in posttest scores as compared to the control group on the dependent variable systolic blood pressure.

$F(1,15) = 2.10, p < 0.1680$

The null hypothesis was not rejected.

Null Hypothesis VIII: There is no difference in posttest scores between the treatment and control groups on the dependent variable diastolic blood pressure.

Alternate Hypothesis VIII: The treatment group will have a decrease in posttest scores as compared to the control group on the dependent variable diastolic blood pressure.

$F(1,15) = 1.11, p < 0.3078$

The null hypothesis was not rejected.

Null Hypothesis IX: There is no difference in posttest scores between the treatment and control groups on the dependent variable nutrition (checklist).

Alternate Hypothesis IX: The treatment group will have improved dietary intake in posttest scores as compared to the control group on the dependent variable nutrition (checklist).

$F(1,20) = 8.77, p < .007$

The null hypothesis was rejected for its alternate.

Null Hypothesis X: There is no difference in posttest scores between the treatment and control groups on the dependent variable physical exercise (checklist).

Alternative Hypothesis X: The treatment group will exhibit increased physical exercise in posttest scores as compared to the control group on the dependent variable physical exercise (checklist).

$F(1,20) = 4.05, p < .057$

The null hypothesis was rejected for its alternate.

In summary, multivariate analyses revealed an overall group effect. Univariate testing indicated that the dependent variables of psychogenic attitudes, Haan's defense scales, and all three variables of the checklist (nutrition, psychological coping, physical exercise) accounted for the overall significant difference. Further explanation, in an effort toward a comprehensive understanding of these results, will be undertaken in Chapter V.

CHAPTER V

SUMMARY, DISCUSSION, CONCLUSIONS

This chapter will serve to bridge the gap between the research cited in the literature and this present study. Primarily, a discussion of the study results will aid in better understanding the contributions of a holistic approach to stress management. The nature of the treatment and the instruments used to test the hypotheses will be explored and their limitations noted. Finally, conclusions and suggestions for future research will be offered.

Summary

In recent years, stress has become a household word to describe difficulty coping in personal and professional settings. Although technological advances have served to improve our lifestyles through modern day time-saving conveniences and devices that give us fingertip access to the world, the revolution has speeded up our lives and assaulted our ears and nerves affecting every aspect of peoples' lives. As a result, bodily stress may range from short-lived fatigue to chronic back pain, migraine headache, and ulcers. Psychosomatic disorders and mental fatigue have also become common.

Researchers exploring how stress affects human functioning have most often focused on specific symptomatology or particular types of stress producers. Selye (1956), Levi (1974), and Singer (1974) have emphasized the role of

hormonal response to life adjustments and their effects on the likelihood of disease. Julien (1978) has studied how foods may add stress to the system and Blumenthal, Williams, Kong, Schanberg and Thompson (1980) have done the same regarding exercise. Additionally, McCranie, Simpson and Stevens (1981), Howard (1976) and others have conducted extensive long-term research on Type A behavior and its relationship to coronary heart disease. Lazarus (1966) and Haan (1963) have explored coping and defending styles, and Hinkle (1974) explains how psychological defending relates to the frequency of illness. The present study has attempted to unify the theories and research cited above into a holistic workshop, in which all parts of the body and psyche are assumed to act in unison to maintain a healthy system. The workshop in this study, then, includes the holistic concepts of nutrition, physical exercise, and coping and defending styles as aids to reducing stress. Ten hypotheses were derived as dependent variables to measure these holistic concepts.

Thirty-five subjects of this study responded to radio and newspaper public service notices in the greater Lansing area. They were informed about the nature of the study and all subjects were pretested using the instruments on which the hypotheses are based, which were described in Chapter III of this study. Subjects were also randomly assigned to one of two groups. Group one received the five-week workshop based on the holistic model. Group two was not treated at this

time, but six weeks later (time two), when all subjects were posttested. Group two then received the five-week workshop treatment and was posttested again. The same instructor, room, time, and day of the week were maintained for consistency of treatment. The workshop (treatment) was focused on stress, its relationship to heart disease, and to psychophysiology. Type A personality was discussed, as well as nutritional, coping, defending, and physical exercise patterns in relation to stress. The workshop was didactic and participatory, with small group discussion.

In the statistical analysis of the data, Pearson product-moment correlations were performed on all the pretests to determine if relationships existed among variables. There was no justification to exclude dependent variables. Multiple analysis of covariance was performed on all dependent variables, with sex and pretest covaried. An overall group effect was found to exist when all the variables (excluding the checklist) were analyzed [$F(8,8) = 7.01, p < .006$]. Subsequent univariate analyses revealed the psychogenic attitudes scale [$F(1,15) = 34.86, p < .001$] and Haan's defense scale [$F(5,15) = 11.65, p < .004$] accounted for the main effect. Additional analyses were conducted on the checklist, with sex and pretest covaried. A main effect for group resulted [$F(3,18) = 3.81, p < .03$], with univariates indicating that three variables accounted for most of the variance: nutrition [$F(1,20) = 8.77, p < .007$], psychological coping [$F(1,20) = 3.60, p < .072$], and physical exercise [$F(1,20) = 4.05, p < .057$].

Discussion

This section will be used to discuss the overall results of this study and how they relate to the research cited. More specifically, why certain univariates contributed to the overall group effect and why other dependent variables were not significant, based on the theories and research cited in Chapter II, will be discussed. The limitations of this study will also be explored.

In reviewing the results, the treatment group had a significant difference in decreased posttest scores as compared to the control group on the dependent variable Millon's psychogenic attitude scales and Haan's defense scales. On the checklist, the nutrition scale showed significantly improved dietary intake and the physical exercise scale revealed significant increases in physical exercise patterns.

Millon's psychogenic attitude scales measured personal feelings and perceptions related to psychological stress, often a precursor to psychosomatic complaints and illness. Two of these scales, chronic tension and recent stress, attempt to measure the effects of relatively objective events which are stressful. Chronic tension tends to be a measure of Type A behavior, and the recent stress scale a measure of recent stress similar to the Holmes and Rahe (1967) Social Readjustment Scale. These two scales, then, encompass personality traits and external factors which may create stress. The premorbid pessimism and future despair scales tend to identify how people relate to the stress they are experiencing,

with high scorers complaining about life in general and exhibiting poor attitudes for coping with stress. Social alienation and somatic anxiety, the last two scales, measure interpersonal relationships and bodily functioning, with high scorers prone to ailments and hypochondriasis. The scales which comprise the psychogenic attitude scale, then, take external stress into consideration but focus primarily on personality characteristics and attitudes about illness and recovery. Following treatment, the experimental group in this study attained significantly lower scores as compared to the control on this variable, meaning that the treatment group were less likely to report psychosomatic complaints, had better dispositions toward recovery from illness, exhibited fewer Type A characteristics, and experienced less external stress, as compared to the controls. Subjects in the experimental group learned about Type A behaviors, heart disease, coping and defending styles, the psychophysiology of stress, and that people do, in fact, have some control over their bodies through the autonomic system. These factors appeared to have had a positive influence on how subjects later felt and perceived stress, as compared to those in the control group. Subjects in the control group exhibited increased scores on the psychogenic attitude scale at post-test time, indicating that during the waiting period, and perhaps as a result of it, subjects continued to exhibit poor attitudes for coping with stress.

The literature suggests that if attitudes, beliefs, and feelings about other persons and events are perceived as stressful, the body will produce a neurophysiological reaction, maintaining a stressed state. The end result may be chronic heart disease, as evidenced by Jenkins (1971), who found that subjects experiencing work overload and chronic conflict situations related to work and family were more likely to develop angina pectoris than those without such conflicts. Subjects in the workshop of this study exhibited fewer Type A characteristics and experienced less external stress as compared to the controls, suggesting less of a likelihood for chronic heart disease.

The experimental group scored significantly lower than the control group on Haan's defense scales, scales which attempt to measure the classical defenses: isolation, intellectualizations, rationalization, doubt, projection, regression, denial, displacement, reaction formation, and repression. High scores on these scales indicate a well-defended person, who feels vulnerable and more easily threatened than those with lower scores. Subjects were randomized and all dependent variables were covaried on the pretests, thus we cannot say that the control group was significantly more well-defended than the experimental group by chance factors. Rather, we must assume that the treatment itself affected defensiveness, perhaps by informing subjects about coping and defending styles, and by providing activities which encouraged participation and, on one occasion, small group interaction.

Subjects in the control group exhibited increased defensiveness scores during the waiting period, suggesting that this was a difficult period. This was also evidenced by subjects' poor attitudes for coping with stress as indicated on the psychogenic attitude scale.

The ego part of the personality acts to mediate perceptions of internal and external stimuli and defenses come into play to respond to stressful situations to reduce the threat and anxiety. Continued use of defenses suggests a stressed state in the individual with psychosomatic illness a possible long-term side effect. This workshop served to make subjects more aware of potential stressors. Subjects were more likely to appraise future-oriented stress as less threatening to the psyche, and perhaps had less need to use defenses to protect the ego. Lazarus' contention is that the individual uses defenses to psychologically deceive themselves about the active conditions of the threat; however, this appeared not to be necessary as a result of the workshop. This workshop served the purpose of making better appraisals of stress, finding them less threatening.

Hinkle (1974), Gentry, Foster and Harvey (1972), and Fenz and Epstein (1962) indicate that under extreme forms of stress, such as a patient who is seriously ill, or parents of a child dying of a terminal illness, defenses are used as a way of coping with the trauma. They suggest that the seriously ill patient who defends may fare better psychologically and physically. At some point in time, then, there is an inverse relationship

as to the use of defenses to protect the sphere of the ego. Although it is not known conclusively, the data and reports from subjects in the present study indicate that subjects did not experience such traumatic stressful situations where defenses were used to such a large extent. The results of this study could not confirm the findings of Hinkle, Gentry, Foster and Harvey, and Fenz and Epstein, which suggests that defenses are used for traumatic situations to protect the individual from the threatening situation.

All three components of the checklist proved to be significant when the treatment group was compared to the control, indicating that treatment group subjects changed their behavior and attitudes about nutritional intake and physical exercise, and became psychologically more able to cope with stress. It appears that the workshop served to educate subjects about these behavior patterns, and perhaps also reinforced personal commitments to change these aspects of their lives, as evidenced by their response to the workshop and the fact that some subjects were cardiac rehabilitation patients on the road to recovery from a heart attack. These subjects were eager to learn that personality variables which contribute to a stressful life-style (Type A behavior), lack of regular physical exercise and high intake of saturated fats are predisposing toward heart disease (Robbins and Angell, 1976).

Similarly, Rosenman and Friedman (1960) found that members reported moderate to heavy work activity, or who

undertook regular daily exercise had lower rates of heart disease than those with sedentary to light work. Blumenthal et al. (1980) found that a supervised program of regular exercise can successfully modify the physiological and psychological variables associated with increased risk for chronic heart disease in a non-clinical sample of healthy adults. In addition to the subject's personal motivation acquired from this information, the checklist asked questions such as, "How many six-ounce chocolate bars do you eat per week?" Thus, an awareness may have developed from the pre-test and through the workshop as to what attitudes and habits were healthy to maintain.

Given these positive responses to the treatment, it remains to be discussed why the treatment and control groups were not found to be significantly different on the dependent variables of ego strength, emotional disorder, Haan's coping scales, Millon's basic coping scales, and diastolic and systolic blood pressures, as suggested by the literature.

Subjects in the treatment group did not score significantly higher on Haan's Coping Scale or Ego Strength, or score lower on the Emotional Disorder Scale. Ego strength, like coping, appears to be consistent with healthy ego functioning, the integrated part of personality. Psychoanalysis tells us that deep-rooted personality structures may be difficult to change in short periods of time, as ego strength takes years to develop via the secondary processes of thinking, language, delay, motility, memory, etc. But

even once the child has mastered these tasks and ego strength is developed with the formation of the personality, years later ego strength continues to develop as the adult person is subjected to life's experiences. As a result, a construct like ego strength and its coping counterpart may be less subject to change, especially in the period of five weeks. Although defenses are deep-rooted personality structures like coping responses, these subjects had somewhat healthy coping responses as evidenced by attending the workshop with the purpose of alleviating stress. The participatory nature of the workshop and the above combination of factors suggests that perhaps defenses are more easily broken down than coping mechanisms are established. Subjects learned that repression and other defensive behavior may create a stressed state with psychosomatic ailments resulting. They also learned that under extreme forms of stress, defenses serve to protect the individual. As a result, they may have learned to discriminate so that defenses are maintained in certain extreme stressful situations where they are necessary, but through the awareness created by the workshop, Lazarus' information suggests they were able to make better cognitive appraisal to threat, with the stress less threatening to the system. Millon's Basic Coping Styles are personality variables which may not be subject to changing easily for the same reasons.

The data are consistent with the Pearlin and Schooler (1978) research which indicates that in stressful

interpersonal relationships what one does to change the stressful situation is most important. To that extent, subjects in the present study participated in the workshop and discussed their difficulties, with the end result, hopefully, a change in their behavior or attitude about the stressful situation.

Cattell (1966) found diastolic blood pressure to be significantly related to trait anxiety or constant stress, whereas systolic blood pressure is thought to be more situational. In this study, systolic and diastolic blood pressure were not significantly lowered, perhaps because a five-week workshop is not enough time for these physiological changes to take place. For example, nutritional and exercise habits may be improved by lowering salt consumption and walking instead of using an elevator, yet these behavioral changes may take time to manifest themselves physiologically in blood pressure readings. The Blumenthal study suggests these physiological changes are possible in a ten-week period. It should be noted, however, that blood pressure readings for the treatment and control at pre- and posttest time were within a normal range, suggesting that further reductions would be difficult to ensure.

Conclusions

The purpose of this research was to design a holistic approach to stress management where participants could learn how diet, activity, and coping and defending can work in

unison to facilitate coping with stress. From the findings derived from the data, there was an overall significant differences between the treatment group as compared to the control.

These findings suggest that defenses, Type A behavioral patterns measured indirectly, attitudes and perceptions about life-style, nutritional intake and exercise patterns can be changed as the result of a five-week workshop. Coping responses and the more deep-rooted personality components such as ego strength appear less changeable as the result of a five-week workshop. Similarly, the physiological measure of blood pressure was not significantly different for the treatment group during this time period.

This research is consistent with the holistic theory that how individuals perceive and evaluate information from their environment influences attitudes, diet, activity, and coping and defending responses. The research also supports the theory that a holistic workshop can have beneficial results in treating individuals who feel the need to alleviate stress in their lives.

Suggestions for Further Research

Limitations of this study and recommendations for further research include a larger sample for increased cell size and a more powerful test. Statistically, this would have enhanced the present findings. All pretests and sex served as covariates, thereby reducing the power of the test. Also, because of the small sample who were volunteers, and the

results of pretesting, caution must be taken in generalizing to larger populations.

There were limitations to the test data, despite a survey of several hundred scales. The coping and defending scales were derived by Haan following an integrated theory, yet they were tested on limited samples, making norms uncertain. The scales are not yet published as clinical instruments, attesting to their research nature. This study used the scales to compare differences between the treatment and the control group, rather than comparing the treatment to a normative sample. Contrary to Haan's coping and defending scales, the Millon Behavioral Health Inventory has a rich clinical base; however, many of these norms are based on people who were hospitalized. Millon claims the inventory can be used on any population; however, it must be noted that the normative base were medically hospitalized adults and the subjects in the present study were compared to this normative sample.

The checklist was derived due to a lack of published measures on nutrition and physical exercise habits. Although it proved reliable, its validity is unknown. For the applications of this study, however, the checklist seemed to serve a useful purpose.

Perhaps more physiological measures would prove useful, such as the treadmill performance used in the Blumenthal study, where a program of regular exercise successfully modified the physiological and psychological variables associated with an increased risk for chronic heart disease. Blood

levels of cholesterol and triglycerides would also indicate less stress as detected on the heart physiologically, rather than an indication of less stress reported through subjective attitudes and perceptions. A longer time frame, such as the ten weeks in the Blumenthal study, would be needed to derive the physiological results, however.

APPENDICES

APPENDIX A

MMPI EMOTIONAL DISORDER SCALE

Emotional Disorder Scale (Ed) MMPI

| | T | F |
|--|---|---|
| 2. I have a good appetite. | — | — |
| 29. I am bothered by acid stomach several times a week. | — | — |
| 41. I have had periods of days, weeks, or months when I couldn't take care of things because I couldn't "get going." | — | — |
| 47. Once a week or oftener I feel suddenly hot all over, without apparent cause. | — | — |
| 76. Most of the time I feel blue. | — | — |
| 88. I usually feel that life is worth while. | — | — |
| 108. There seems to be a fullness in my head or nose most of the time. | — | — |
| 152. Most nights I go to sleep without thoughts or ideas bothering me. | — | — |
| 174. I have never had a fainting spell. | — | — |
| 178. My memory seems to be all right. | — | — |
| 186. I frequently notice my hand shakes when I try to do something. | — | — |
| 189. I feel weak all over much of the time. | — | — |
| 190. I have very few headaches. | — | — |
| 191. Sometimes, when embarrassed, I break out in a sweat which annoys me greatly. | — | — |
| 217. I frequently find myself worrying about something. | — | — |
| 230. I hardly ever notice my heart pounding and I am seldom short of breath. | — | — |
| 238. I have periods of such great restlessness that I cannot sit long in a chair. | — | — |
| 242. I believe I am no more nervous than most others. | — | — |

Emotional Disorder Scale (continued)

| | T | F |
|--|---|---|
| 257. I usually expect to succeed in things I do. | — | — |
| 305. Even when I am with people I feel lonely much of the time. | — | — |

APPENDIX B
MMPI EGO STRENGTH SCALE

Ego Strength Scale (Es) MMPI

| | T | F |
|--|---|---|
| 2. I have a good appetite. | — | — |
| 14. I have diarrhea once a month or more. | — | — |
| 22. At times I have fits of laughing and crying that I cannot control. | — | — |
| 32. I find it hard to keep my mind on a task or job. | — | — |
| 33. I have had very peculiar and strange experiences. | — | — |
| 34. I have a cough most of the time. | — | — |
| 36. I seldom worry about my health. | — | — |
| 43. My sleep is fitful and disturbed. | — | — |
| 48. When I am with people I am bothered by hearing very queer things. | — | — |
| 51. I am in just as good physical health as most of my friends. | — | — |
| 58. Everything is turning out just like the prophets of the Bible said it would. | — | — |
| 62. Parts of my body often have feelings like burning, tingling, crawling, or like "going to sleep." | — | — |
| 82. I am easily downed in an argument. | — | — |
| 94. I do many things which I regret afterwards (I regret things more or more often than others seem to). | — | — |
| 95. I go to church almost every week. | — | — |
| 100. I have met problems so full of possibilities that I have been unable to make up my mind about them. | — | — |
| 109. Some people are so bossy that I feel like doing the opposite of what they request, even though I know they are right. | — | — |

Ego Strength Scale (continued)

| | T | F |
|--|---|---|
| 132. I like collecting flowers or growing house plants. | — | — |
| 140. I like to cook. | — | — |
| 153. During the past few years I have been well most of the time. | — | — |
| 174. I have never had a fainting spell. | — | — |
| 181. When I get bored I like to stir up some excitement. | — | — |
| 187. My hands have not become clumsy or awkward. | — | — |
| 189. I feel weak all over much of the time. | — | — |
| 192. I have had no difficulty in keeping my balance in walking. | — | — |
| 208. I like to flirt. | — | — |
| 209. I believe my sins are unpardonable. | — | — |
| 217. I frequently find myself worrying about something. | — | — |
| 221. I like science. | — | — |
| 231. I like to talk about sex. | — | — |
| 234. I get mad easily and then get over it soon. | — | — |
| 236. I brood a great deal. | — | — |
| 241. I dream frequently about things that are best kept to myself. | — | — |
| 244. My way of doing things is apt to be misunderstood by others. | — | — |
| 251. I have had blank spells in which my activities were interrupted and I did not know what was going on around me. | — | — |

Ego Strength Scale (continued)

| | T | F |
|--|---|---|
| 253. I can be friendly with people who do things which I consider wrong. | — | — |
| 261. If I were an artist I would like to draw flowers. | — | — |
| 270. When I leave home I do not worry about whether the door is locked and the windows closed. | — | — |
| 341. At times I hear so well it bothers me. | — | — |
| 344. Often I cross the street in order not to meet someone I see. | — | — |
| 349. I have strange and peculiar thoughts. | — | — |
| 355. Sometimes I enjoy hurting persons I love. | — | — |
| 359. Sometimes some unimportant thought will run through my mind and bother me for days. | — | — |
| 367. I am not unusually self-conscious. | — | — |
| 378. I am embarrassed by dirty stories. | — | — |
| 380. I try to remember good stories to pass them on to other people. | — | — |
| 384. My worries seem to disappear when I get into a crowd of lively friends. | — | — |
| 389. Whenever possible I avoid being in a crowd. | — | — |
| 410. I would certainly enjoy beating a crook at his own game. | — | — |
| 420. I have had some very unusual religious experiences. | — | — |
| 421. One or more members of my family is very nervous. | — | — |
| 430. I am attracted by members of the opposite sex. | — | — |

Ego Strength Scale (continued)

| | T | F |
|--|---|---|
| 458. The man who had most to do with me when I was a child (such as my father, step-father, etc.) was very strict with me. | — | — |
| 483. Christ performed miracles such as changing water into wine. | — | — |
| 488. I pray several times every week. | — | — |
| 489. I feel sympathetic towards people who tend to hang on to their griefs and troubles. | — | — |
| 494. I am afraid of finding myself in a closet or small closed place. | — | — |
| 510. Dirt frightens or disgusts me. | — | — |
| 513. I think Lincoln was greater than Washington. | — | — |
| 515. In my home we have always had the ordinary necessities (such as enough food, clothing, etc.). | — | — |
| 525. I am made nervous by certain animals. | — | — |
| 541. My skin seems to be unusually sensitive to touch. | — | — |
| 544. I feel tired a good deal of the time. | — | — |
| 548. I never attend a sexy show if I can avoid it. | — | — |
| 554. If I were an artist I would like to draw children. | — | — |
| 555. I sometimes feel that I am about to go to pieces. | — | — |
| 559. I have often been frightened in the middle of the night. | — | — |
| 561. I very much like horseback riding. | — | — |

APPENDIX C

MILLON BEHAVIORAL HEALTH INVENTORY:
BASIC COPING SCALES

Millon Behavioral Health Inventory

Basic Coping Scales

Introspective Personality Style (32 items)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|--|
| 3. | When I was a young child, my parents felt very proud of me. |
| 10. | I almost never feel pressure in the work I do. |
| 11. | I get very frightened when I think of being all alone in the world. |
| 14. | All my life I have to "blow up" every now and then. |
| 17. | A quiet hobby is more fun for me than a party. |
| 19. | I often say things that I regret having said. |
| 22. | People can influence me quite easily. |
| 25. | I don't mind that other people are not interested in my friendship. |
| 37. | I make nasty remarks to people if they deserve it. |
| 45. | I do my best to get along with others by being pleadant and agreeable. |
| 48. | I often get angry with people who do things slowly. |
| 49. | I don't depend much on other people for friendship. |
| 50. | I feel pretty upset about most things in my life. |
| 51. | It is very difficult for me to stop feelings from coming out. |
| 54. | I like to flirt a lot. |
| 60. | I am a dramatic and showy sort of person. |
| 63. | I often think about unhappy things that have happened to me. |
| 64. | I often do things for no reason other than it might be fun. |
| 66. | I guess I'm a complainer who expects the worst to happen. |
| 67. | It is not unusual to feel lonely and unwanted. |

Introspective Personality Style
(Continued)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|---|
| 76. | I like being in a crowd just to be with lots of people. |
| 78. | I guess I depend too much on others to be helpful to me. |
| 81. | I get frightened when I think I have a medical problem. |
| 86. | I often feel so angry that I want to throw and break things. |
| 94. | Many important things have happened in my life this past year. |
| 100. | I like to tell others about the things I have done well. |
| 104. | I wish the people around me would move faster and get more things done. |
| 106. | I have very few close personal ties with others. |
| 112. | I haven't thought much about what I'll be doing a year from now. |
| 143. | I become very excited or upset once a week or more. |
| 148. | I have a strong need to feel like an important person. |
| 149. | My day is filled with pressures and responsibilities. |

Millon Behavioral Health Inventory

Basic Coping Scales

Inhibited Personality Style (43 items)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|--|
| 9. | I am very pleased with all the things I have done up to now. |
| 18. | Most people wouldn't care much if I were very sick. |
| 28. | I often feel that others do not want to be friendly to me. |
| 29. | If I became ill, I wouldn't have much help from my family. |
| 33. | So little of what I have done has been appreciated by others. |
| 35. | I've done most things in my life very well. |
| 36. | When I think about the past, I remember mostly the good things. |
| 44. | I look forward to the future with lots of hope. |
| 45. | I do my best to get along with others by being pleasant and agreeable. |
| 47. | I get upset when things I don't expect happen to me. |
| 50. | I feel pretty upset about most things in my life. |
| 53. | I can stand a lot of pain. |
| 55. | In time of trouble there are several friends that I can depend on. |
| 56. | Most people can be trusted to be kind and thoughtful. |
| 57. | Even if I were very sick, I'd keep fighting and never give up. |
| 63. | I often think about unhappy things that have happened to me. |
| 67. | It is not unusual to feel lonely and unwanted. |
| 69. | Lots of people would care about me if I became very sick. |
| 75. | I seem to fit in right away with any group of people I meet. |
| 76. | I like being in a crowd just to be with lots of people. |
| 77. | Most of my problems just go on and on. |
| 80. | I have always felt some kind of problem between me and the opposite sex. |

Inhibited Personality Style
(Continued)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|--|
| 83. | I would have lots of visitors if I were in the hospital. |
| 85. | I would never let a serious sickness stop me from working toward the future. |
| 91. | I very often think I am not wanted by others in a group. |
| 92. | Even when things seem to be going well, I expect that they'll soon get worse. |
| 93. | I would rather be direct with people than avoid telling them something they don't like. |
| 98. | Ever since I was a child I have been losing touch with the real world. |
| 99. | I cannot depend on my family when I need them. |
| 105. | I often feel that there is nothing I can do to make my life easier. |
| 106. | I have very few close personal ties with others. |
| 111. | I have faith that human nature is good. |
| 116. | My work makes me tense almost all the time. |
| 119. | If I were young again, I would do things very differently. |
| 122. | Rather than demand things, people can get what they want by being gentle and thoughtful. |
| 124. | I can see more sides of a problem better than others can. |
| 127. | For me, the future looks like it will be full of trouble and problems. |
| 129. | I have never felt much life in me. |
| 131. | I often doubt whether people are really interested in what I am saying to them. |

Inhibited Personality Style
(Continued)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|--|
| 133. | I don't know what I want out of life. |
| 138. | There has recently been an important change in my job. |
| 142. | I'd be a pretty lonely person if I ever were hospitalized. |
| 146. | I get so touchy that I can't talk about certain things. |

Millon Behavioral Health Inventory

Basic Coping Scales

Cooperative Personality Style (33 items)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|---|
| 6. | I like to be the one in authority to take charge of things. |
| 11. | I get very frightened when I think of being all alone in the world. |
| 22. | People can influence me quite easily. |
| 25. | I don't mind that other people are not interested in my friendship. |
| 30. | In many ways I feel very superior to most people. |
| 37. | I make nasty remarks to people if they deserve it. |
| 45. | I do my best to get along with others by being pleasant and agreeable. |
| 48. | I often get angry with people who do things slowly. |
| 49. | I don't depend much on other people for friendship. |
| 56. | Most people can be trusted to be kind and thoughtful. |
| 60. | I am a dramatic and showy sort of person. |
| 61. | I can't stand people who are late for appointments. |
| 62. | I do my best to stop anyone from trying to boss me. |
| 70. | I would much rather follow someone than be the leader. |
| 74. | I find it hard to feel sorry for people who are always worried about things. |
| 76. | I like being in a crowd just to be with lots of people. |
| 78. | I guess I depend too much on others to be helpful to me. |
| 82. | Punishment never stopped me from doing whatever I wanted. |
| 93. | I would rather be direct with people than avoid telling them something they don't like. |

Cooperative Personality Style
(Continued)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|---|
| 102. | I usually let other people have their own way. |
| 104. | I wish the people around me would move faster and get more things done. |
| 106. | I have very few close personal ties with others. |
| 109. | I have a strong desire to win any game I play with others. |
| 111. | I have faith that human nature is good. |
| 114. | When someone hurts me, I try to forget it. |
| 118. | In this world you either push or get shoved. |
| 126. | I am more worried about finishing things that I start than most people. |
| 128. | I do my best not to hurt people's feelings. |
| 136. | I am very uneasy when I have to tell people what to do. |
| 139. | I like to follow instructions and do what others expect of me. |
| 141. | I am a quiet and cooperative person. |
| 144. | I always try to do what is proper. |
| 148. | I have a strong need to feel like an important person. |

Millon Behavioral Health Inventory

Basic Coping Scales

Sociable Personality Style (40 items)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|---|
| 15. | This year I was successful as something that was very important to me. |
| 17. | A quiet hobby is more fun for me than a party. |
| 25. | I don't mind that other people are not interested in my friendship. |
| 28. | I often feel that others do not want to be friendly to me. |
| 33. | So little of what I have done has been appreciated by others. |
| 38. | I have had more than my share of troubles in the past year. |
| 41. | I almost never worry about my health. |
| 43. | There are always a number of reasons why most problems can't be solved. |
| 45. | I do my best to get along with others by being pleasant and agreeable. |
| 47. | I get upset when things I don't expect happen to me. |
| 49. | I don't depend much on other people for friendship. |
| 50. | I feel pretty upset about things in my life. |
| 54. | I like to flirt a lot. |
| 58. | I sometimes feel I am in this world all alone. |
| 60. | I am a dramatic and showy sort of person. |
| 63. | I often think about unhappy things that have happened to me. |
| 64. | I often do things for no reason other than it might be fun. |
| 67. | It is not unusual to feel lonely and unwanted. |
| 70. | I would much rather follow someone than be the leader. |
| 75. | I seem to fit in right away with any group of people I meet. |

Sociable Personality Style
(Continued)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|---|
| 76. | I like being in a crowd just to be with lots of people. |
| 77. | Most of my problems just go on and on. |
| 83. | I would have lots of visitors if I were in the hospital. |
| 91. | I very often think I am not wanted by others in a group. |
| 94. | Many important things have happened in my life this past year. |
| 100. | I like to tell others about the things I have done well. |
| 102. | I usually let other people have their own way. |
| 105. | I often feel that there is nothing I can do to make my life easier. |
| 106. | I have very few close personal ties with others. |
| 108. | If I thought I were getting sick, I would quickly call a doctor. |
| 112. | I haven't thought much about what I'll be doing a year from now. |
| 118. | In this world you either push or get shoved. |
| 119. | If I were young again, I would do things very differently. |
| 121. | I've had a lot of shocks and disappointments this past year. |
| 127. | For me, the future looks like it will be full of trouble and problems. |
| 131. | I often doubt whether people are really interested in what I am saying to them. |
| 136. | I am very uneasy when I have to tell people what to do. |
| 141. | I am a quiet and cooperative person. |
| 144. | I always try to do what is proper. |
| 146. | I get so touchy that I can't talk about certain things. |

Millon Behavioral Health Inventory

Basic Coping Scales

Confident Personality Style (33 items)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|--|
| 1. | I have always been able to overcome the problems I've had. |
| 6. | I like to be the one in authority to take charge of things. |
| 7. | If I were very sick, I'm sure that everything would work out well. |
| 9. | I am very pleased with all the things I have done up to now. |
| 15. | This year I was successful at something that was very important to me. |
| 16. | I am in better health than most of my friends. |
| 22. | People can influence me quite easily. |
| 28. | I often feel that others do not want to be friendly to me. |
| 30. | In many ways I feel very superior to most people. |
| 33. | So little of what I have done has been appreciated by others. |
| 35. | I've done most things in my life very well. |
| 53. | I can stand a lot of pain. |
| 58. | I sometimes feel I am in this world all alone. |
| 62. | I do my best to stop anyone from trying to boss me. |
| 67. | It is not unusual to feel lonely and unwanted. |
| 70. | I would much rather follow someone than to be the leader. |
| 74. | I find it hard to feel sorry for people who are always worried about things. |
| 75. | I seem to fit in right away with any group of people I meet. |
| 78. | I guess I depend too much on others to be helpful to me. |
| 82. | Punishment never stopped me from doing whatever I wanted. |
| 83. | I get frightened when I think I have a medical problem. |

Confident Personality Style
(Continued)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|---|
| 88. | I really hate to have my work pile up. |
| 91. | I very often think I am not wanted by others in a group. |
| 93. | I would rather be direct with people than avoid telling them something they don't like. |
| 100. | I like to tell others about the things I have done well. |
| 102. | I usually let other people have their own way. |
| 119. | If I were young again, I would do things very differently. |
| 124. | I can see more sides of a problem better than others can. |
| 126. | I am more worried about finishing things that I start than most people. |
| 131. | I often doubt whether people are really interested in what I am saying to them. |
| 136. | I am very uneasy when I have to tell people what to do. |
| 148. | I have a strong need to feel like an important person. |
| 150. | I like to arrange things down to the last detail. |

Millon Behavioral Health Inventory

Basic Coping Scales

Forceful Personality Style (33 items)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|---|
| 6. | I like to be the one in authority to take charge of things. |
| 12. | I am ready to attack anyone who tries to say terrible things about me. |
| 22. | People can influence me quite easily. |
| 30. | In many ways I feel very superior to most people. |
| 37. | I make nasty remarks to people if they deserve it. |
| 48. | I often get angry with people who do things slowly. |
| 54. | I like to flirt a lot. |
| 56. | Most people can be trusted to be kind and thoughtful. |
| 60. | I am a dramatic and showy sort of person. |
| 61. | I can't stand people who are late for appointments. |
| 62. | I do my best to stop anyone from trying to boss me. |
| 70. | I would much rather follow someone than be the leader. |
| 72. | To get ahead in this world I'm willing to push people who get in my way. |
| 74. | I find it hard to feel sorry for people who are always worried about things. |
| 78. | I guess I depend too much on others to be helpful to me. |
| 82. | Punishment never stopped me from doing whatever I wanted. |
| 84. | Among the most important things a person can have are a strong will and the drive to get ahead. |
| 87. | I dislike going to doctors, and do so only after trying everything myself. |
| 93. | I would rather be direct with people than avoid telling them something they don't like. |

Forceful Personality Style
(Continued)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|--|
| 102. | I usually let other people have their own way. |
| 104. | I wish the people around me would move faster and get more things done. |
| 109. | I have a strong desire to win any game I play with others. |
| 111. | I have faith that human nature is good. |
| 114. | When someone hurts me, I try to forget it. |
| 118. | In this world you either push or get shoved. |
| 122. | Rather than demand things, people can get what they want by being gentle and thoughtful. |
| 126. | I am more worried about finishing things that I start than most people. |
| 128. | I do my best not to hurt people's feelings. |
| 136. | I am very uneasy when I have to tell people what to do. |
| 139. | I like to follow instructions and do what others expect of me. |
| 141. | I am a quiet and cooperative person. |
| 148. | I have a strong need to feel like an important person. |
| 150. | I like to arrange things down to the last detail. |

Millon Behavioral Health Inventory

Basic Coping Scales

Respectful Personality Style (42 items)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|--|
| 1. | I have always been able to overcome the problems I've had. |
| 2. | Lately, life has been going along as usual, with no special things happening. |
| 8. | I always take the medicine a doctor tells me to even if I don't think it is working. |
| 9. | I am very pleased with all the things I have done up to now. |
| 10. | I almost never feel pressure in the work I do. |
| 14. | All my life I have to "blow up" every now and then. |
| 17. | A quiet hobby is more fun for me than a party. |
| 21. | I have a lot of faith that doctors can cure any sickness. |
| 32. | No matter what, seeing a doctor can make me feel better. |
| 34. | Keeping to a time schedule is not important to me. |
| 35. | I've done most things in my life very well. |
| 37. | I make nasty remarks to people if they deserve it. |
| 38. | I have had more than my share troubles in the past year. |
| 39. | It is good to have a regular way of doing things to avoid mistakes. |
| 41. | I almost never worry about my health. |
| 45. | I do my best to get along with others by being pleasant and agreeable. |
| 47. | I get upset when things I don't expect happen to me. |
| 54. | I like to flirt a lot. |
| 56. | Most people can be trusted to be kind and thoughtful. |

Respectful Personality Style
(Continued)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|---|
| 57. | Even if I were very sick, I'd keep fighting and never give up. |
| 60. | I am a dramatic and showy sort of person. |
| 64. | I often do things for no reason other than it might be fun. |
| 73. | Doctors have always been helpful to me. |
| 82. | Punishment never stopped me from doing whatever I wanted. |
| 84. | Among the most important things a person can have are a strong will and the drive to get ahead. |
| 85. | I would never let a serious sickness stop me from working toward the future. |
| 86. | I often feel so angry that I want to throw and break things. |
| 88. | I really hate to have my work pile up. |
| 89. | I find it hard to take my mind off my work even when I'm supposed to be relaxing. |
| 93. | I would rather be direct with people than avoid telling them something they don't like. |
| 95. | What this country really needs are more serious and devoted citizens. |
| 106. | I have very few close personal ties with others. |
| 108. | If I thought I were getting sick, I would quickly call a doctor. |
| 112. | I haven't thought much about what I'll be doing a year from now. |
| 114. | When someone hurts me, I try to forget it. |
| 120. | It is very important that children learn to obey their elders. |
| 126. | I am more worried about finishing things that I start than most people. |
| 133. | I don't know what I want out of life. |

Respectful Personality Style
(Continued)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|--|
| 139. | I like to follow instructions and do what others expect of me. |
| 141. | I am a quiet and cooperative person. |
| 144. | I always try to do what is proper. |
| 150. | I like to arrange things down to the last detail. |

Millon Behavioral Health Inventory

Basic Coping Scales

Sensitive Personality Style (48 items)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|---|
| 1. | I have always been able to overcome the problems I've had. |
| 3. | When I was a young child, my parents felt very proud of me. |
| 9. | I am very pleased with all the things I have done up to now. |
| 10. | I almost never feel pressure in the work I do. |
| 11. | I get very frightened when I think of being all alone in the world. |
| 12. | I am ready to attack anyone who tries to say terrible things about me. |
| 13. | I have a feeling that things in my life just go from bad to worse. |
| 14. | All my life I have to "blow up" every now and then. |
| 19. | I often say things that I regret having said. |
| 24. | Even in difficult times, I always try to be cheerful. |
| 31. | If I ever got a serious illness, I think it would be the end of me. |
| 33. | So little of what I have done has been appreciated by others. |
| 35. | I've done most things in my life very well. |
| 37. | I make nasty remarks to people if they deserve it. |
| 43. | There are always a number of reasons why most problems can't be solved. |
| 47. | I get upset when things I don't expect happen to me. |
| 48. | I often get angry with people who do things slowly. |
| 50. | I feel pretty upset about most things in my life. |
| 51. | It is very difficult for me to stop feelings from coming out. |

Sensitive Personality Style
(Continued)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|---|
| 58. | I sometimes feel I am in this world all alone. |
| 59. | I feel that the doctors I have seen are not interested in my problems. |
| 63. | I often think about unhappy things that have happened to me. |
| 64. | I often do things for no reason other than it might be fun. |
| 66. | I guess I'm a complainer who expects the worst to happen. |
| 67. | It is not unusual to feel lonely and unwanted. |
| 68. | I worry a lot about my health. |
| 71. | If I had a very serious sickness, I think I would fall apart mentally. |
| 77. | Most of my problems just go on and on. |
| 86. | I often feel so angry that I want to throw and break things. |
| 88. | I really hate to have my work pile up. |
| 92. | Even when things seem to be going well, I expect that they'll soon get worse. |
| 103. | I usually won't take any medicines, even if a doctor tells me to. |
| 104. | I wish the people around me would move faster and get more things done. |
| 105. | I often feel that there is nothing I can do to make my life easier. |
| 107. | This past year has been one of the most difficult ones in my life. |
| 111. | I have faith that human nature is good. |
| 114. | Hospitals are frightening and lonely places to be in. |
| 116. | My work makes me tense almost all the time. |

Sensitive Personality Style
(Continued)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|---|
| 118. | In this world you either push or get shoved. |
| 126. | I am more worried about finishing things that I start than most people. |
| 131. | I often doubt whether people are really interested in what I am saying to them. |
| 133. | I don't know what I want out of life. |
| 134. | Life has never gone well for me. |
| 135. | I've been touchy or tearful about everything most of my life. |
| 141. | I am a quiet and cooperative person. |
| 143. | I become very excited or upset once a week or more. |
| 146. | I get so touchy that I can't talk about certain things. |
| 149. | My day is filled with pressures and responsibilities. |

APPENDIX D

MILLON BEHAVIORAL HEALTH INVENTORY:
PSYCHOGENIC ATTITUDE SCALES

Millon Behavioral Health Inventory

Psychogenic Attitude Scales

Chronic Tension (29 items)

| <u>Item #</u> | <u>Test-Item</u> |
|---------------|---|
| 6. | I like to be the one in authority to take charge of things. |
| 10. | I almost never feel pressure in the work I do. |
| 14. | All my life I have to "blow up" every now and then. |
| 19. | I often say things that I regret having said. |
| 23. | I often find time to take it easy and do nothing. |
| 24. | Even in difficult times, I always try to be cheerful. |
| 34. | Keeping to a time schedule is not important to me. |
| 43. | There are always a number of reasons why most problems can't be solved. |
| 47. | I get upset when things I don't expect happen to me. |
| 48. | I often get angry with people who do things slowly. |
| 58. | I sometimes feel I am in this world all alone. |
| 61. | I can't stand people who are late for appointments. |
| 62. | I do my best to stop anyone from trying to boss me. |
| 66. | I guess I'm a complainer who expects the worst to happen. |
| 86. | I often feel so angry that I want to throw and break things. |
| 88. | I really hate to have my work pile up. |
| 89. | I find it hard to take my mind off my work even when I'm supposed to be relaxing. |
| 104. | I wish the people around me would move faster and get more things done. |
| 109. | I have a strong desire to win any game I play with others. |
| 116. | My work makes me tense almost all the time. |

Chronic Tension
(Continued)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|---|
| 118. | In this world you either push or get shoved. |
| 126. | I am more worried about finishing things that I start than most people. |
| 132. | It is very easy for me to relax and slow down. |
| 137. | I am too rushed and busy to take the vacations I should. |
| 143. | I become very excited or upset once a week or more. |
| 146. | I get so touchy that I can't talk about certain things. |
| 148. | I have a strong need to feel like an important person. |
| 149. | My day is filled with pressures and responsibilities. |
| 150. | I like to arrange things down to the last detail. |

Millon Behavioral Health Inventory

Psychogenic Attitude Scales

Recent Stress (20 items)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|---|
| 2. | Lately, life has been going along as usual, with no special things happening. |
| 14. | All my life I have to "blow up" every now and then. |
| 15. | This year I was successful at something that was very important to me. |
| 26. | I've had serious money problems this past year. |
| 38. | I have has more than my share of troubles in the past year. |
| 40. | Many people have been spying into my private life for years. |
| 52. | My family has had really bad problems in the past year. |
| 58. | I sometimes feel I am in this world all alone. |
| 59. | I feel that the doctors I have seen are not interested in my problems. |
| 65. | During the past year, someone close to me has been very ill. |
| 77. | Most of my problems just go on and on. |
| 79. | I moved during the past year. |
| 92. | Even when things seem to be going well, I expect that they'll soon get worse. |
| 94. | Many important things have happened in my life this past year. |
| 107. | This past year has been one of the most difficult ones in my life. |
| 121. | I've has a lot of shocks and disappointments this past year. |
| 137. | I am too rushed and busy to take the vacations I should. |
| 138. | There has recently been an important change in my job. |
| 143. | I become very excited or upset once a week or more. |
| 146. | I get so touchy that I can't talk about certain things. |

Millon Behavioral Health Inventory

Psychogenic Attitude Scales

Premorbid Pessimism (40 items)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|---|
| 1. | I have always been able to overcome the problems I've had. |
| 9. | I am very pleased with all the things I have done up to now. |
| 13. | I have a feeling that things in my life just go from bad to worse. |
| 15. | This year I was successful at something that was very important to me. |
| 18. | Most people wouldn't care much if I were very sick. |
| 24. | Even in difficult times, I always try to be cheerful. |
| 26. | I've had serious money problems this past year. |
| 27. | I almost always have medical problems. |
| 28. | I often feel that others do not want to be friendly to me. |
| 31. | If I ever got a serious illness, I think it would be the end of me. |
| 33. | So little of what I have done has been appreciated by others. |
| 36. | When I think about the past, I remember mostly the good things. |
| 38. | I have had more than my share of troubles in the past year. |
| 43. | There are always a number of reasons why most problems can't be solved. |
| 50. | I feel pretty upset about most things in my life. |
| 52. | My family has had really bad problems in the past year. |
| 58. | I sometimes feel I am in this world all alone. |
| 63. | I often think about unhappy things that have happened to me. |
| 66. | I guess I'm a complainer who expects the worst to happen. |

Premorbid Pessimism
(Continued)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|---|
| 67. | It is not unusual to feel lonely and unwanted. |
| 68. | I worry a lot about my health. |
| 69. | Lots of people would care about me if I became very sick. |
| 71. | If I had a very serious sickness, I think I would fall apart mentally. |
| 77. | Most of my problems just go on and on. |
| 91. | I very often think I am not wanted by others in a group. |
| 92. | Even when things seem to be going well, I expect that they'll soon get worse. |
| 105. | I often feel that there is nothing I can do to make my life easier. |
| 107. | This past year has been one of the most difficult ones in my life. |
| 119. | If I were young again, I would do things very differently. |
| 121. | I've had a lot of shocks and disappointments this past year. |
| 126. | I am more worried about finishing things that I start than most people. |
| 127. | For me, the future looks like it will be full of trouble and problems. |
| 129. | I have never felt much life in me. |
| 131. | I often doubt whether people are really interested in what I am saying to them. |
| 134. | Life has never gone well for me. |
| 135. | I've been touchy or tearful about everything most of my life. |

Premorbid Pessimism
(Continued)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|--|
| 140. | I often think that I have a serious illness. |
| 142. | I'd be a pretty lonely person if I ever were hospitalized. |
| 143. | I become very excited or upset once a week or more. |
| 146. | I get so touchy that I can't talk about certain things. |

Millon Behavioral Health Inventory

Psychogenic Attitude Scales

Future Despair (38 items)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|---|
| 7. | If I were very sick, I'm sure that everything would work out well. |
| 13. | I have a feeling that things in my life just go from bad to worse. |
| 15. | This year I was successful at something that was very important to me. |
| 20. | I have lots of plans of what I'd like to be doing ten years from now. |
| 31. | If I ever got a serious illness, I think it would be the end for me. |
| 41. | I almost never worry about my health. |
| 43. | There are always a number of reasons why most problems can't be solved. |
| 44. | I look forward to the future with lots of hope. |
| 50. | I feel pretty upset about most things in my life. |
| 51. | It is very difficult for me to stop feelings from coming out. |
| 57. | Even if I were very sick, I'd keep fighting and never give up. |
| 63. | I often think about unhappy things that have happened to me. |
| 66. | I guess I'm a complainer who expects the worst to happen. |
| 67. | It is not unusual to feel lonely and unwanted. |
| 69. | Lots of people would care about me if I became very sick. |
| 71. | If I had a very serious sickness, I think I would fall apart mentally. |
| 75. | I seem to fit in right away with any group of people I meet. |
| 77. | Most of my problems just go on and on. |

Future Despair
(Continued)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|---|
| 81. | I get frightened when I think I have a medical problem. |
| 83. | I would have lots of visitors if I were in the hospital. |
| 85. | I would never let a serious sickness stop me from working toward the future. |
| 92. | Even when things seem to be going well, I expect that they'll soon get worse. |
| 101. | I'd rather be dead than have a very serious sickness. |
| 105. | I often feel that there is nothing I can do to make my life easier. |
| 106. | I have very few close personal ties with others. |
| 112. | I haven't thought much about what I'll be doing a year from now. |
| 115. | Hospitals are frightening and lonely places to be in. |
| 118. | In this world you either push or get shoved. |
| 119. | If I were young again, I would do things very differently. |
| 123. | I get very upset when I feel pain in any part of my body. |
| 127. | For me, the future looks like it will be full of trouble and problems. |
| 129. | I have never felt much life in me. |
| 133. | I don't know what I want out of life. |
| 134. | Life has never gone well for me. |
| 140. | I often think that I have a serious illness. |
| 142. | I'd be a pretty lonely person if I ever were hospitalized. |
| 145. | I don't think I would want to go on living if my body was marked up a lot in a serious operation. |
| 146. | I get so touchy that I can't talk about certain things. |

Millon Behavioral Health Inventory

Psychogenic Attitude Scales

Somatic Anxiety (34 items)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|--|
| 4. | I have almost never been sick. |
| 11. | I get very frightened when I think of being all alone in the world. |
| 13. | I have a feeling that things in my life just go from bad to worse. |
| 16. | I am in better health than most of my friends. |
| 27. | I almost always have medical problems. |
| 32. | No matter what, seeing a doctor can make me feel better. |
| 38. | I have had more than my share of troubles in the past year. |
| 41. | I almost never worry about my health. |
| 42. | If I thought I had a serious sickness, I would quickly talk it over my family. |
| 43. | There are always a number of reasons why most problems can't be solved. |
| 47. | I get upset when things I don't expect happen to me. |
| 50. | I feel pretty upset about most things in my life. |
| 51. | It is very difficult for me to stop feelings from coming out. |
| 53. | I can stand a lot of pain. |
| 63. | I often think about unhappy things that have happened to me. |
| 66. | I guess I'm a complainer who expects the worst to happen. |
| 68. | I worry a lot about my health. |
| 71. | If I had a very serious sickness, I think I would fall apart mentally. |
| 77. | Most of my problems just go on and on. |

Somatic Anxiety
(Continued)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|---|
| 81. | I get frightened when I think I have a medical problem. |
| 89. | I find it hard to take my mind off my work even then I'm supposed to be relaxing. |
| 92. | Even when things seem to be going well, I expect that they'll soon get worse. |
| 97. | T.V. programs about illness make me very upset. |
| 108. | If I thought I were getting sick, I would quickly call a doctor. |
| 112. | I haven't thought much about what I'll be doing a year from now. |
| 115. | Hospitals are frightening and lonely places to be in. |
| 121. | I've had a lot of shocks and disappointments this past year. |
| 123. | I get very upset when I feel pain in any part of my body. |
| 127. | For me, the future looks like it will be full of trouble and problems. |
| 129. | I have never felt much life in me. |
| 134. | Life has never gone well for me. |
| 135. | I've been touchy or tearful about everything most of my life. |
| 140. | I often think that I have a serious illness. |
| 143. | I become very excited or upset once a week or more. |

Millon Behavioral Health Inventory

Psychogenic Attitude Scales

Social Alienation (33 items)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|---|
| 5. | I have friends who will listen to any problems I have. |
| 9. | I am very pleased with all the things I have done up to now. |
| 18. | Most people wouldn't care much if I were very sick. |
| 25. | I don't mind that other people are not interested in my friendship. |
| 28. | I often feel that others do not want to be friendly to me. |
| 29. | If I became ill, I wouldn't have much help from my family. |
| 33. | So little of what I have done has been appreciated by others. |
| 36. | When I think about the past, I remember mostly the good things. |
| 42. | If I thought I had a serious sickness, I would quickly talk it over with my family. |
| 44. | I look forward to the future with lots of hope. |
| 49. | I don't depend much on other people for friendship. |
| 50. | I feel pretty upset about most things in my life. |
| 55. | In time of trouble there are several friends that I can depend on. |
| 56. | Most people can be trusted to be kind and thoughtful. |
| 58. | I sometimes feel I am in this world all alone. |
| 67. | It is not unusual to feel lonely and unwanted. |
| 69. | Lots of people would care about me if I became very sick. |
| 75. | I seem to fit in right away with any group of people I meet. |
| 80. | I have always felt some kind of problem between me and the opposite sex. |
| 83. | I would have lots of visitors if I were in the hospital. |

Social Alienation
(Continued)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|--|
| 91. | I very often think I am not wanted by others in a group. |
| 98. | Ever since I was a child I have been losing touch with the real world. |
| 99. | I cannot depend on my family when I need them. |
| 106. | I have very few close personal ties with others. |
| 110. | Nobody really cares about my state of health. |
| 113. | All my life I have had the feeling that I have done something terribly wrong or evil. |
| 122. | Rather than demand things, people can get what they want by being gently and thoughtful. |
| 125. | If I were getting sick, I wouldn't waste my time telling anyone in my family. |
| 131. | I often doubt whether people are really interested in what I am saying to them. |
| 133. | I don't know what I want out of life. |
| 135. | I've been touchy or tearful about everything most of my life. |
| 142. | I'd be a pretty lonely person if I ever were hospitalized. |
| 146. | I get so touchy that I can't talk about certain things. |

APPENDIX E
HAAN'S COPING SCALES

Haan's Coping Scales (CPI):

Objectivity (Male)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|---|
| 7. | When in a group of people I usually do what the others want rather than make suggestions. |
| 18. | A person who doesn't vote is not a good citizen. |
| 41. | For most questions there is just one right answer, once a person is able to get all the facts. |
| 45. | As a child I used to be able to go to my parents with my problems. |
| 55. | Some of my family have quick tempers. |
| 73. | Maybe some minority groups do get rough treatment, but it's no business of mine. |
| 74. | It is very hard for me to tell anyone about myself. |
| 76. | I often feel as if the world was just passing me by. |
| 116. | It is annoying to listen to a lecturer who cannot seem to make up his mind as to what he really believes. |
| 121. | I was a slow learner in school |
| 125. | There is something wrong with a person who can't take orders without getting angry or resentful. |
| 133. | I feel as good now as I ever have. |
| 140. | I enjoy hearing lectures on world affairs. |
| 143. | I like to be with a crowd who play jokes on one another. |
| 154. | I like tall women. |
| 170. | I often act on the spur of the moment without stopping to think. |
| 197. | Once in a while I laugh at a dirty joke. |
| 200. | In a group of people I would not be embarrassed to be called upon to start a discussion or give an opinion about something I know well. |
| 211. | I have frequently found myself, when alone, pondering such abstract problems as freewill, evil, etc. |

Objectivity (Male)
(Continued)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|---|
| 215. | I would like to write a technical book. |
| 227. | It is hard for me to find anything to talk about when I meet a new person. |
| 234. | We ought to pay our elected officials better than we do. |
| 238. | Sometimes I just can't seem to get going. |
| 257. | I often feel as though I have done something wrong or wicked. |
| 292. | I used to like it very much when one of my papers was read to the class in school. |
| 295. | I would be willing to give money myself in order to right a wrong, even though I was not mixed up in it in the first place. |
| 299. | I don't seem to care what happens to me. |
| 303. | We should cut down on our use of oil, if necessary, so that there will be plenty left for the people fifty or a hundred years from now. |
| 373. | My table manners are not quite as good at home as when I am out in company. |
| 375. | There are certain people who I dislike so much that I am inwardly pleased when they are catching it for something they have done. |
| 382. | Success is a matter of will power. |
| 401. | Most young people get too much education. |
| 407. | I have had no difficulty in starting or holding my bowel movement. |
| 417. | Any job is all right with me, so long as it pays well. |
| 436. | I never cared much for school. |
| 445. | I would fight if someone tried to take my rights away. |

Haan's Coping Scales (CPI):

Objectivity (Female)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|---|
| 18. | A person who doesn't vote is not a good citizen. |
| 41. | For most questions there is just one right answer, once a person is able to get all the facts. |
| 45. | As a child I used to be able to go to my parents with my problems. |
| 55. | Some of my family have quick tempers. |
| 73. | Maybe some minority groups do get rough treatment, but it's no business of mine. |
| 76. | I often feel as if the world was just passing my by. |
| 116. | It is annoying to listen to a lecturer who cannot seem to make up his mind as to what he really believes. |
| 121. | I was a slow learner in school |
| 125. | There is something wrong with a person who can't take orders without getting angry or resentful. |
| 140. | I enjoy hearing lectures on world affairs. |
| 143. | I like to be with a crowd who play jokes on one another. |
| 147. | I certainly feel useless at times. |
| 154. | I like tall women. |
| 170. | I often act on the spur of the moment without stopping to think. |
| 197. | Once in a while I laugh at a dirty joke. |
| 200. | In a group of people I would not be embarrassed to be called upon to start a discussion or give an opinion about something I know well. |
| 211. | I have frequently found myself, when alone, pondering such abstract problems as freewill, evil, etc. |
| 215. | I would like to write a technical book. |
| 234. | We ought to pay our elected officials better than we do. |
| 238. | Sometimes I just can't seem to get going. |

Objectivity (Female)
(Continued)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|---|
| 292. | I used to like it very much when one of my papers was read to the class in school. |
| 295. | I would be willing to give money myself in order to right a wrong, even though I was not mixed up in it in the first place. |
| 303. | We should cut down on our use of oil, if necessary, so that there will be plenty left for the people fifty or a hundred years from now. |
| 313. | I hardly ever feel pain in the back of the neck. |
| 315. | People should not have to pay taxes for the schools if they do not have children. |
| 375. | There are certain people whom I dislike so much that I am inwardly pleased when they are catching it for something they have done. |
| 401. | Most young people get too much education. |
| 407. | I have had no difficulty in starting or holding my bowel movement. |
| 417. | Any job is all right with me, so long as it pays well. |
| 436. | I never cared much for school. |
| 445. | I would fight if someone tried to take my rights away. |

Haan's Coping Scales (CPI):

Intellectuality (Male)

| <u>Item#</u> | <u>Test Item</u> |
|--------------|---|
| 17. | I would like to be a journalist. |
| 31. | I doubt whether I would make a good leader. |
| 41. | For most questions there is just one right answer, once a person is able to get all the facts. |
| 45. | As a child I used to be able to go to my parents with my problems. |
| 46. | I think I would like the work of a school teacher. |
| 55. | Some of my family have quick tempers. |
| 73. | Maybe some minority groups do get rough treatment, but it's no business of mine. |
| 85. | I don't like to undertake any project unless I have a pretty good idea as to how it will turn out. |
| 103. | I like to listen to symphony orchestra concerts on the radio. |
| 116. | It is annoying to listen to a lecturer who cannot seem to make up his mind as to what he really believes. |
| 141. | Parents are much too easy on their children nowadays. |
| 144. | I am somewhat afraid of the dark. |
| 160. | I would like to hear a great singer in an opera. |
| 172. | I do not have a great fear of snakes. |
| 179. | When I work on a committee I like to take charge of things. |
| 200. | In a group of people I would not be embarrassed to be called upon to start a discussion or give an opinion about something I know well. |
| 211. | I have frequently found myself, when alone, pondering such abstract problems as freewill, evil, etc. |
| 215. | I would like to write a technical book. |
| 230. | I would rather be a steady and dependable worker than a brilliant but unstable one. |

Intellectuality (Male)
(Continued)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|--|
| 238. | Sometimes I just can't seem to get going. |
| 239. | I like to talk before groups of people. |
| 241. | The man who provides temptation by leaving valuable property unprotected is about as much to blame for its theft as the one who steals it. |
| 255. | Only a fool would try to change our American way of life. |
| 258. | In school I found it very hard to talk before the class. |
| 263. | Lawbreakers are almost always caught and punished. |
| 303. | We should cut down on our use of oil, if necessary, so that there will be plenty left for the people fifty or a hundred years from now. |
| 320. | I would be willing to describe myself as a pretty "strong" personality. |
| 340. | Our thinking would be a lot better off if we would just forget about words like "probably," "approximately," and "perhaps." |
| 357. | For most questions there is just one right answer, once a person is able to get all the facts. |
| 371. | I would rather be a steady and dependable worker than a brilliant but unstable one. |
| 403. | I have a natural talent for influencing people. |
| 407. | I have had no difficulty in starting or holding my bowel movement. |
| 418. | I am embarrassed with people I do not know well. |
| 436. | I never cared much for school. |
| 452. | I dislike to have to talk in front of a group of people. |

Haan's Coping Scales (CPI):

Intellectuality (Female)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|---|
| 17. | I would like to be a journalist. |
| 41. | For most questions there is just one right answer, once a person is able to get all the facts. |
| 45. | As a child I used to be able to go to my parents with my problems. |
| 46. | I think I would like the work of a school teacher. |
| 55. | Some of my family have quick tempers. |
| 57. | I have sometimes stayed away from another person because I feared doing or saying something that I might regret afterwards. |
| 60. | I have often met people who were supposed to be experts who were no better than I. |
| 73. | Maybe some minority groups do get rough treatment, but it's no business of mine. |
| 103. | I like to listen to symphony orchestra concerts on the radio. |
| 116. | It is annoying to listen to a lecturer who cannot seem to make up his mind as to what he really believes. |
| 141. | Parents are much too easy on their children nowadays. |
| 144. | I am somewhat afraid of the dark. |
| 160. | I would like to hear a great singer in an opera. |
| 172. | I do not have a great fear of snakes. |
| 179. | When I work on a committee I like to take charge of things. |
| 200. | In a group of people I would not be embarrassed to be called upon to start a discussion or give an opinion about something I know well. |
| 211. | I have frequently found myself, when alone, pondering such abstract problems as freewill, evil, etc. |
| 215. | I would like to write a technical book. |
| 230. | I would rather be a steady and dependable worker than a brilliant but unstable one. |

Intellectuality (Female)
(Continued)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|--|
| 238. | Sometimes I just can't seem to get going. |
| 239. | I like to talk before groups of people. |
| 241. | The man who provides temptation by leaving valuable property unprotected is about as much to blame for its theft as the one who steals it. |
| 242. | I am a good mixer. |
| 255. | Only a fool would try to change our American way of life. |
| 258. | In school I found it very hard to talk before the class. |
| 263. | Lawbreakers are almost always caught and punished. |
| 303. | We should cut down on our use of oil, if necessary, so that there will be plenty left for the people fifty or a hundred years from now. |
| 320. | I would be willing to describe myself as a pretty "strong" personality. |
| 340. | Our thinking would be a lot better off if we would just forget about words like "probably," "approximately," and "perhaps." |
| 357. | For most questions there is just one right answer, once a person is able to get all the facts. |
| 371. | I would rather be a steady and dependable worker than a brilliant but unstable one. |
| 403. | I have a natural talent for influencing people. |
| 407. | I have had no difficulty in starting or holding my bowel movement. |
| 436. | I never cared much for school. |
| 452. | I dislike to have to talk in front of a group of people. |

Haan's Coping Scales (CPI):

Logical Analysis (Male)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|--|
| 22. | When a person "pads" his income tax report so as to get out of some of his taxes, it is just as bad as stealing money from the government. |
| 38. | It is hard for me to start a conversation with strangers. |
| 41. | For most questions there is just one right answer, once a person is able to get all the facts. |
| 45. | As a child I used to be able to go to my parents with my problems. |
| 46. | I think I would like the work of a school teacher. |
| 55. | Some of my family have quick tempers. |
| 73. | Maybe some minority groups do get rough treatment, but it's no business of mine. |
| 89. | Once a week or oftener I feel suddenly hot all over, without apparent cause. |
| 112. | I set a high standard for myself and I feel others should do the same. |
| 116. | It is annoying to listen to a lecturer who cannot seem to make up his mind as to what he really believes. |
| 121. | I was a slow learner in school. |
| 135. | I wake up fresh and rested most mornings. |
| 140. | I enjoy hearing lectures on world affairs. |
| 143. | I like to be with a crowd who play jokes on one another. |
| 160. | I would like to hear a great singer in an opera. |
| 165. | I do not mind taking orders and being told what to do. |
| 170. | I often act on the spur of the moment without stopping to think. |
| 179. | When I work on a committee I like to take charge of things. |
| 204. | I like to plan a home study schedule and then follow it. |

Logical Analysis (Male)
(Continued)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|--|
| 211. | I have frequently found myself, when alone, pondering such abstract problems as freewill, evil, etc. |
| 215. | I would like to write a technical book. |
| 225. | People pretend to care more about one another than they really do. |
| 227. | It is hard for me to find anything to talk about when I meet a new person. |
| 238. | Sometimes I just can't seem to get going. |
| 241. | The man who provides temptation by leaving valuable property unprotected is about as much to blame for its theft as the one who steals it. |
| 253. | When prices are high you can't blame a person for getting all he can while the getting is good. |
| 255. | Only a fool would try to change our American way of life. |
| 326. | It is annoying to listen to a lecturer who cannot seem to make up his mind as to what he really believes. |
| 340. | Our thinking would be a lot better off if we would just forget about words like "probably," "approximately," and "perhaps." |
| 357. | For most questions there is just one right answer, once a person is able to get all the facts. |
| 378. | I doubt if anyone is really happy. |
| 407. | I have had no difficulty in starting or holding my bowel movement. |
| 418. | I am embarrassed with people I do not know well. |

Haan's Coping Scales (CPI):

Logical Analysis (Female)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|---|
| 41. | For most questions there is just one right answer, once a person is able to get all the facts. |
| 45. | As a child I used to be able to go to my parents with my problems. |
| 46. | I think I would like the work of a school teacher. |
| 55. | Some of my family have quick tempers. |
| 57. | I have sometimes stayed away from another person because I feared doing or saying something that I might regret afterwards. |
| 73. | Maybe some minority groups do get rough treatment, but it's no business of mine. |
| 89. | Once a week or oftener I feel suddenly hot all over, without apparent cause. |
| 112. | I set a high standard for myself and I feel others should do the same. |
| 116. | It is annoying to listen to a lecturer who cannot seem to make up his mind as to what he really believes. |
| 121. | I was a slow learner in school. |
| 135. | I wake up fresh and rested most mornings. |
| 140. | I enjoy hearing lectures on world affairs. |
| 143. | I like to be with a crowd who play jokes on one another. |
| 160. | I would like to hear a great singer in an opera. |
| 165. | I do not mind taking orders and being told what to do. |
| 179. | When I work on a committee I like to take charge of things. |
| 204. | I like to plan a home study schedule and then follow it. |
| 209. | Most people are honest chiefly through fear of being caught. |
| 211. | I have frequently found myself, when alone, pondering such abstract problems as freewill, evil, etc. |

Logical Analysis (Female)
(Continued)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|--|
| 215. | I would like to write a technical book. |
| 225. | People pretend to care more about one another than they really do. |
| 226. | Most people worry too much about sex. |
| 238. | Sometimes I just can't seem to get going. |
| 241. | The man who provides temptation by leaving valuable property unprotected is about as much to blame for its theft as the one who steals it. |
| 253. | When prices are high you can't blame a person for getting all he can while the getting is good. |
| 255. | Only a fool would try to change our American way of life. |
| 326. | It is annoying to listen to a lecturer who cannot seem to make up his mind as to what he really believes. |
| 340. | Our thinking would be a lot better off if we would just forget words like "probably," "approximately," and "perhaps." |
| 357. | For most questions there is just one right answer, once a person is able to get all the facts. |
| 378. | I doubt if anyone is really happy. |
| 407. | I have had no difficulty in starting or holding my bowel movement. |
| 418. | I am embarrassed with people I do not know well. |

Haan's Coping Scales (CPI):

Tolerance of Ambiguity (Male)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|---|
| 5. | Our thinking would be a lot better off if we would just forget about words like "probably," "approximately," and "perhaps." |
| 14. | I always follow the rule: business before pleasure. |
| 17. | I would like to be a journalist. |
| 45. | As a child I used to be able to go to my parents with my problems. |
| 46. | I think I would like the work of a school teacher. |
| 62. | I think Lincoln was greater than Washington. |
| 73. | Maybe some minority groups do get rough treatment, but it's no business of mine. |
| 121. | I was a slow learner in school. |
| 123. | I think I am stricter about right and wrong than most people. |
| 134. | It makes me uncomfortable to put on a stunt at a party even when others are doing the same sort of thing. |
| 141. | Parents are much too easy on their children nowadays. |
| 152. | I read at least ten books a year. |
| 176. | I commonly wonder what hidden reason another person may have for doing something nice for me. |
| 185. | I often do whatever makes me feel cheerful here and now, even at the cost of some distant goal. |
| 211. | I have frequently found myself, when alone, pondering such abstract problems as freewill, evil, etc. |
| 213. | It makes me angry when I hear of someone who has been wrongly prevented from voting. |
| 230. | I would rather be a steady and dependable worker than a brilliant but unstable one. |
| 234. | We ought to pay our elected officials better than we do. |

Tolerance of Ambiguity (Male)
(Continued)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|---|
| 243. | I am often bothered by useless thoughts which keep running through my mind. |
| 255. | Only a fool would try to change our American way of life. |
| 292. | I used to like it very much when one of my papers was read to the class in school. |
| 295. | I would be willing to give money myself in order to right a wrong, even though I was not mixed up in it in the first place. |
| 296. | I would like to be an actor on the stage or in the movies. |
| 303. | We should cut down on our use of oil, if necessary, so that there will be plenty left for the people fifty or a hundred years from now. |
| 305. | I often wish people would be more definite about things. |
| 335. | There are times when I act like a coward. |
| 340. | Our thinking would be a lot better off if we would just forget about words like "probably," "approximately," and "perhaps." |
| 361. | I like to have a place for everything and everything in its place. |
| 370. | Disobedience to any government is never justified. |
| 371. | I would rather be a steady and dependable worker than a brilliant but unstable one. |
| 378. | I doubt if anyone is really happy. |
| 387. | I don't like things to be uncertain and unpredictable. |
| 391. | I am quite a fast reader. |
| 397. | Once I have my mind made up I seldom change it. |
| 399. | At times I have been so entertained by the cleverness of a crook that I have hoped he would get by with it. |
| 400. | I think I am stricter about right and wrong than most people. |
| 404. | I am in favor of a very strict enforcement of all laws, no matter what the consequences. |
| 463. | It is hard for me just to sit still and relax. |

Haan's Coping Scales (CPI):

Tolerance of Ambiguity (Female)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|---|
| 17. | I would like to be a journalist. |
| 25. | Clever, sarcastic people make me feel very uncomfortable. |
| 45. | As a child I used to be able to go to my parents with my problems. |
| 46. | I think I would like the work of a school teacher. |
| 62. | I think Lincoln was greater than Washington. |
| 73. | Maybe some minority groups do get rough treatment, but it's no business of mine. |
| 121. | I was a slow learner in school. |
| 123. | I think I am stricter about right and wrong than most people. |
| 134. | It makes me uncomfortable to put on a stunt at a party even when others are doing the same sort of thing. |
| 141. | Parents are much too easy on their children nowadays. |
| 152. | I read at least ten books a year. |
| 176. | I commonly wonder what hidden reason another person may have for doing something nice for me. |
| 185. | I often do whatever makes me feel cheerful here and now, even at the cost of some distant goal. |
| 211. | I have frequently found myself, when alone, pondering such abstract problems as freewill, evil, etc. |
| 213. | It makes me angry when I hear of someone who has been wrongly prevented from voting. |
| 230. | I would rather be a steady and dependable worker than a brilliant but unstable one. |
| 243. | I am often bothered by useless thoughts which keep running through my mind. |
| 255. | Only a fool would try to change our American way of life. |
| 264. | I would be very unhappy if I was not successful at something I had seriously started to do. |

Tolerance of Ambiguity (Female)
(Continued)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|---|
| 295. | I would be willing to give money myself in order to right a wrong, even though I was not mixed up in it in the first place. |
| 296. | I would like to be an actor on the stage or in the movies. |
| 303. | We should cut down on our use of oil, if necessary, so that there will be plenty left for the people fifty or a hundred years from now. |
| 340. | Our thinking would be a lot better off if we would just forget about words like "probably," "approximately," and "perhaps." |
| 361. | I like to have a place for everything and everything in its place. |
| 370. | Disobedience to any government is never justified. |
| 371. | I would rather be a steady and dependable worker than a brilliant but unstable one. |
| 380. | I am known as a hard and steady worker. |
| 387. | I don't like things to be uncertain and unpredictable. |
| 397. | Once I have my mind made up I seldom change it. |
| 399. | At times I have been so entertained by the cleverness of a crook that I have hoped he would get by with it. |
| 400. | I think I am stricter about right and wrong than most people. |
| 404. | I am in favor of a very strick enforcement of all laws, no matter what the consequences. |

Haan's Coping Scales (CPI):

Empathy (Male)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|--|
| 1. | I enjoy social gatherings just to be with people. |
| 18. | A person who doesn't vote is not a good citizen. |
| 28. | I think I would like the work of a dress designer. |
| 30. | I gossip a little at times. |
| 32. | I tend to be on my guard with people who are somewhat more friendly than I had expected. |
| 45. | As a child I used to be able to go to my parents with my problems. |
| 49. | When someone does me a wrong I feel I should pay him back if I can, just for the principle of the thing. |
| 87. | I like adventure stories better than romantic stories. |
| 110. | The thought of being in an automobile accident is very frightening to me. |
| 123. | I think I am stricter about right and wrong than most people. |
| 141. | Parents are much too easy on their children nowadays. |
| 156. | I hardly ever get excited or thrilled. |
| 168. | My home life was always happy. |
| 171. | I think I could do better than most of the present politicians if I were in office. |
| 180. | My parents have generally let me make my own decisions. |
| 185. | I often do whatever makes me feel cheerful here and now, even at the cost of some distant goal. |
| 202. | If given the chance I would make a good leader of people. |
| 210. | I very much like hunting. |
| 213. | It makes me angry when I hear of someone who has been wrongly prevented from voting. |
| 217. | I think I would like the work of a librarian. |

Empathy (Male)
(Continued)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|---|
| 218. | I love to go to dances. |
| 221. | People have a real duty to take care of their aged parents, even if it means making some pretty big sacrifices. |
| 239. | I like to talk before groups of people. |
| 244. | If I were a reporter I would like very much to report news of the theater. |
| 249. | I like mechanics magazines. |
| 253. | When prices are high you can't blame a person for getting all he can while the getting is good. |
| 292. | I used to like it very much when one of my papers was read to the class in school. |
| 303. | We should cut down on our use of oil, if necessary, so that there will be plenty left for the people fifty or a hundred years from now. |
| 307. | If I am driving a car, I try to keep others from passing me. |
| 334. | I get nervous when I have to ask someone for a job. |
| 368. | I have had no difficulty starting or holding my urine. |
| 385. | It is pretty easy for people to win arguments with me. |
| 397. | Once I have my mind made up I seldom change it. |
| 404. | I am in favor of a very strict enforcement of all laws, no matter what the consequences. |
| 433. | It is more important that a father be kind than that he be successful. |

Haan's Coping Scales (CPI):

Empathy (Female)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|--|
| 18. | A person who doesn't vote is not a good citizen. |
| 28. | I think I would like the work of a dress designer. |
| 30. | I gossip a little at times. |
| 32. | I tend to be on my guard with people who are somewhat more friendly than I had expected. |
| 37. | I have very few fears compared to my friends. |
| 45. | As a child I used to be able to go to my parents with my problems. |
| 49. | When someone does me a wrong I feel I should pay him back if I can, just for the principle of the thing. |
| 87. | I like adventure stories better than romantic stories. |
| 110. | The thought of being in an automobile accident is very frightening to me. |
| 123. | I think I am stricter about right and wrong than most people. |
| 141. | Parents are much too easy on their children nowadays. |
| 156. | I hardly ever get excited or thrilled. |
| 168. | My home life was always happy. |
| 171. | I think I could do better than most of the present politicians if I were in office. |
| 185. | I often do whatever makes me feel chreeful here and now, even at the cost of some distant goal. |
| 202. | If given the chance I would make a good leader of people. |
| 210. | I very much like hunting. |
| 213. | It makes me angry when I hear of someone who has been wrongly prevented from voting. |
| 217. | I think I would like the work of a librarian. |

Empathy (Female)
(Continued)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|---|
| 239. | I like to talk before groups of people. |
| 244. | If I were a reporter I would like very much to report news of the theater. |
| 249. | I like mechanics magazines. |
| 292. | I used to like it very much when one of my papers was read to the class in school. |
| 303. | We should cut down on our use of oil, if necessary, so that there will be plenty left for the people fifty or a hundred years from now. |
| 307. | If I am driving a car, I try to keep others from passing me. |
| 380. | I am known as a hard and steady worker. |
| 397. | Once I have my mind made up I seldom change it. |
| 404. | I have had no difficulty in starting or holding my bowel movement. |
| 433. | It is more important that a father be kind than that he be successful. |

Haan's Coping Scales (CPI):

Regression in Service of Ego (Male)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|--|
| 4. | A person needs to "show off" a little now and then. |
| 28. | I think I would like the work of a dress designer. |
| 29. | I am often said to be hotheaded. |
| 45. | As a child I used to be able to go to my parents with my problems. |
| 55. | Some of my family have quick tempers. |
| 62. | I think Lincoln was greater than Washington. |
| 71. | I get excited very easily. |
| 86. | Most of the arguments or quarrels I get into are over matters of principle. |
| 88. | I do not like to see people carelessly dressed. |
| 114. | At times I feel like picking a fist fight with someone. |
| 141. | Parents are much too easy on their children nowadays. |
| 149. | I consider a matter from every standpoint before I make a decision. |
| 174. | I never make judgments about people until I am sure of the facts. |
| 211. | I have frequently found myself, when alone, pondering such abstract problems as freewill, evil, etc. |
| 213. | It makes me angry when I hear of someone who has been wrongly prevented from voting. |
| 229. | I much prefer symmetry to asymmetry. |
| 230. | I would rather be a steady and dependable worker than a brilliant but unstable one. |
| 231. | I am apt to show off in some way if I get the chance. |
| 243. | I am often bothered by useless thoughts which keep running through my mind. |
| 250. | I must admit I find it very hard to work under strict rules and regulations. |

Regression in Service of Ego
(Female) (Continued)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|--|
| 255. | Only a fool would try to change our American way of life. |
| 262. | There have been a few times when I have been very mean to another person. |
| 306. | I have nightmares every few nights. |
| 311. | I cannot do anything well. |
| 316. | My parents wanted me to "make good" in the world. |
| 335. | There are times when I act like a coward. |
| 347. | I never make judgments about people until I am sure of the facts. |
| 375. | There are certain people whom I dislike so much that I am inwardly pleased when they are catching it for something they have done. |
| 378. | I doubt if anyone is really happy. |
| 397. | Once I have my mind made up I seldom change it. |
| 399. | At times I have been so entertained by the cleverness of a crook that I have hoped he would get by with it. |
| 408. | I always see to it that my work is carefully planned and organized. |
| 423. | If people had not had it in for me I would have been much more successful. |
| 451. | I set a high standard for myself and I feel others should do the same. |

Haan's Coping Scales (CPI):

Regression in Service of Ego (Female)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|--|
| 4. | A person needs to "show off" a little now and then. |
| 28. | I think I would like the work of a dress designer. |
| 29. | I am often said to be hotheaded. |
| 42. | I sometimes pretend to know more than I really do. |
| 44. | Sometimes I feel like smashing things. |
| 45. | As a child I used to be able to go to my parents with my problems. |
| 62. | I think Lincoln was greater than Washington. |
| 86. | Most of the arguments or quarrels I get into are over matters of principle. |
| 88. | I do not like to see people carelessly dressed. |
| 114. | At times I feel like picking a fist fight with someone. |
| 124. | I am likely not to speak to people until they speak to me. |
| 141. | Parents are much too easy on their children nowadays. |
| 149. | I consider a matter from every standpoint before I make a decision. |
| 174. | I never make judgments about people until I am sure of the facts. |
| 180. | My parents have generally let me make my own decisions. |
| 211. | I have frequently found myself, when alone, pondering such abstract problems as freewill, evil, etc. |
| 213. | It makes me angry when I hear of someone who has been wrongly prevented from voting. |
| 230. | I would rather be a steady and dependable worker than a brilliant but unstable one. |
| 231. | I am apt to show off in some way if I get the chance. |
| 243. | I am often bothered by useless thoughts which keep running through my mind. |

Regression in Service of Ego
(Female) (Continued)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|--|
| 250. | I must admit I find it very hard to work under strict rules and regulations. |
| 255. | Only a fool would try to change our American way of life. |
| 262. | There have been a few times when I have been very mean to another person. |
| 306. | I have nightmares every few nights. |
| 311. | I cannot do anything well. |
| 316. | My parents wanted me to "make good" in the world. |
| 335. | There are times when I act like a coward. |
| 347. | I never make judgments about people until I am sure of the facts. |
| 354. | A strong person will be able to make up his mind even on the most difficult questions. |
| 375. | There are certain people whom I dislike so much that I am inwardly pleased when they are catching it for something they have done. |
| 378. | I doubt if anyone is really happy. |
| 397. | Once I have my mind made up I seldom change it. |
| 399. | At times I have been so entertained by the cleverness of a crook that I have hoped he would get by with it. |
| 408. | I always see to it that my work is carefully planned and organized. |
| 451. | I set a high standard for myself and I feel others should do the same. |

Haan's Coping Scales (CPI):

Concentration (Male)

| <u>Item#</u> | <u>Test Item</u> |
|--------------|--|
| 53. | I think I would enjoy having authority over other people. |
| 54. | I find it hard to keep my mind on a task or job. |
| 70. | Sometimes I cross the street just to avoid meeting someone. |
| 92. | People often expect too much of me. |
| 129. | I think I would like to drive a racing car. |
| 135. | I wake up fresh and rested most mornings. |
| 139. | It is all right to get around the law if you don't actually break it. |
| 143. | I like to be with a crowd who play jokes on one another. |
| 179. | When I work on a committee I like to take charge of things. |
| 197. | Once in a while I laugh at a dirty joke. |
| 225. | People pretend to care more about one another than they really do. |
| 238. | Sometimes I just can't seem to get going. |
| 245. | Most of the time I feel happy. |
| 252. | I sometimes feel that I am a burden to others. |
| 256. | I want to be an important person in the community. |
| 270. | I often lose my temper. |
| 279. | I often get disgusted with myself. |
| 290. | I have never been in trouble because of my sex behavior. |
| 292. | I used to like it very much when one of my papers was read to the class in school. |
| 339. | I have been in trouble one or more times because of my sex behavior. |
| 359. | I think I am usually a leader in my group. |
| 369. | I seem to do things that I regret more often than other people do. |

Concentration (Male)
(Continued)

| <u>Item#</u> | <u>Test Item</u> |
|--------------|---|
| 378. | I doubt if anyone is really happy. |
| 383. | I usually have to stop and think before I act even in trifling matters. |
| 407. | I have had no difficulty in starting or holding my bowel movement. |
| 418. | I am embarrassed with people I do not know well. |
| 422. | I feel like giving up quickly when things go wrong. |
| 431. | As a youngster in school I used to give the teachers lots of trouble. |
| 438. | I would have been more successful if people had given me a fair chance. |
| 445. | I would fight if someone tried to take my rights away. |
| 449. | Almost every day something happens to frighten me. |
| 465. | I must admit that I am a high-strung person. |
| 472. | I feel that I would be a much better person if I could gain more understanding of myself. |

Haan's Coping Scales (CPI):

Concentration (Female)

| Item# | <u>Test Item</u> |
|-------|--|
| 53. | I think I would enjoy having authority over other people. |
| 71. | I get excited very easily. |
| 92. | People often expect too much of me. |
| 94. | With things going as they are, it's pretty hard to keep up hope of amounting to something. |
| 129. | I think I would like to drive a racing car. |
| 135. | I wake up fresh and rested most mornings. |
| 139. | It is all right to get around the law if you don't actually break it. |
| 143. | I like to be with a crowd who play jokes on one another. |
| 160. | I would like to hear a great singer in an opera. |
| 179. | When I work on a committee I like to take charge of things. |
| 197. | Once in a while I laugh at a dirty joke. |
| 225. | People pretend to care more about one another than they really do. |
| 238. | Sometimes I just can't seem to get going. |
| 245. | Most of the time I feel happy. |
| 252. | I sometimes feel that I am a burden to others. |
| 256. | I want to be an important person in the community. |
| 270. | I often lose my temper. |
| 279. | I often get disgusted with myself. |
| 290. | I have never been in trouble because of my sex behavior. |
| 292. | I used to like it very much when one of my papers was read to the class in school. |
| 339. | I have been in trouble one or more times because of my sex behavior. |

Concentration (Female)
(Continued)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|---|
| 359. | I think I am usually a leader in my group. |
| 369. | I seem to do things that I regret more often than other people do. |
| 383. | I usually have to stop and think before I act even in trifling matters. |
| 407. | I have had no difficulty in starting or holding my bowel movement. |
| 418. | I am embarrassed with people I do not know well. |
| 422. | I feel like giving up quickly when things go wrong. |
| 431. | As a youngster in school I used to give the teachers lots of trouble. |
| 438. | I would have been more successful if people had given me a fair chance. |
| 445. | I would fight if someone tried to take my rights away. |
| 449. | Almost every day something happens to frighten me. |
| 453. | I wouk under a great deal of tension. |
| 465. | I must admit that I am a high-strung person. |
| 472. | I feel that I would be a much better person if I could gain more understanding of myself. |

Haan's Coping Scales (CPI):

Sublimation (Male)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|---|
| 23. | In most ways the poor man is better off than the rich man. |
| 27. | It makes me feel like a failure when I hear of the success of someone I know well. |
| 61. | I liked school. |
| 67. | I feel sure that there is only one true religion. |
| 73. | Maybe some minority groups do get rough treatment, but it's no business of mine. |
| 76. | I often feel as if the world was just passing me by. |
| 86. | Most of the arguments or quarrels I get into are over matters of principle. |
| 130. | Sometimes without any reason or even when things are going wrong I feel excitedly happy, "on top of the world." |
| 144. | I am somewhat afraid of the dark. |
| 152. | I read at least ten books a year. |
| 160. | I would like to hear a great singer in an opera. |
| 166. | In school I always looked far ahead in planning what courses to take. |
| 172. | I do not have a great fear of snakes. |
| 187. | I am inclined to take things hard. |
| 197. | Once in a while I laugh at a dirty joke. |
| 240. | I would like to be a nurse. |
| 273. | I am bothered by people outside, on streetcars, in stores, etc., watching me. |
| 280. | I enjoy many different kinds of play and recreation. |
| 299. | I don't seem to care what happens to me. |

Sublimation (Male)
(Continued)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|---|
| 301. | I am afraid to be alone in the dark. |
| 322. | I do not like to loan my things to people who are careless in the way they take care of them. |
| 344. | I am made nervous by certain animals. |
| 349. | If a person is clever enough to cheat someone out of a large sum of money, he ought to be allowed to keep it. |
| 368. | I have had no difficulty starting or holding my urine. |
| 378. | I doubt if anyone is really happy. |
| 380. | I am known as a hard and steady worker. |
| 390. | I have not lived the right kind of life. |
| 399. | At times I have been so entertained by the cleverness of a crook that I have hoped he would get by with it. |
| 404. | I am in favor of a very strict enforcement of all laws, no matter what the consequences. |
| 416. | I don't think I'm quite as happy as others seem to be. |
| 418. | I am embarrassed with people I do not know well. |
| 436. | I never cared much for school. |
| 445. | I would fight if someone tried to take my rights away. |
| 449. | Almost every day something happens to frighten me. |
| 466. | I am a very ticklish person. |

Haan's Coping Scales (CPI):

Sublimation (Female)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|---|
| 27. | It makes me feel like a failure when I hear of the success of someone I know well. |
| 67. | I feel sure that there is only one true religion. |
| 73. | Maybe some minority groups do get rough treatment, but it's no business of mine. |
| 76. | I often feel as if the world was just passing me by. |
| 86. | Most of the arguments or quarrels I get into are over matters of principle. |
| 110. | The thought of being in an automobile accident is very frightening to me. |
| 130. | Sometimes without any reason or even when things are going wrong I feel excitedly happy, "on top of the world." |
| 144. | I am somewhat afraid of the dark. |
| 152. | I read at least ten books a year. |
| 160. | I would like to hear a great singer in an opera. |
| 166. | In school I always looked far ahead in planning what courses to take. |
| 172. | I do not have a great fear of snakes. |
| 187. | I am inclined to take things hard. |
| 197. | Once in a while I laugh at a dirty joke. |
| 209. | Most people are honest chiefly through fear of being caught. |
| 273. | I am bothered by people outside, on streetcars, in stores, etc., watching me. |
| 280. | I enjoy many different kinds of play and recreation. |
| 299. | I don't seem to care what happens to me. |
| 301. | I am afraid to be alone in the dark. |

Sublimation (Female)
(Continued)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|---|
| 322. | I do not like to loan my things to people who are careless in the way they take care of them. |
| 344. | I am made nervous by certain animals. |
| 349. | If a person is clever enough to cheat someone out of a large sum of money, he ought to be allowed to keep it. |
| 368. | I have had no difficulty starting or holding my urine. |
| 378. | I doubt if anyone is really happy. |
| 380. | I am known as a hard and steady worker. |
| 389. | I get pretty discouraged with the law when a smart lawyer gets a criminal free. |
| 390. | I have not lived the right kind of life. |
| 399. | At times I have been so entertained by the cleverness of a crook that I have hoped he would get by with it. |
| 416. | I don't think I'm quite happy as others seem to be. |
| 418. | I am embarrassed with people I do not know well. |
| 436. | I never cared much for school. |
| 445. | I would fight if someone tried to take my right away. |
| 449. | Almost every day something happens to frighten me. |
| 466. | I am a very ticklish person. |

Haan's Coping Scales (CPI):

Substitution (Male)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|---|
| 19. | I think I would like the work of a building contractor. |
| 55. | Some of my family have quick tempers. |
| 60. | I have often met people who were supposed to be experts who were no better than I. |
| 61. | I liked school. |
| 94. | With things going as they are, it's pretty hard to keep up hope of amounting to something. |
| 119. | Planning one's activities in advance is very likely to take most of the fun out of life. |
| 133. | I feel as good now as I ever have. |
| 165. | I do not mind taking orders and being told what to do. |
| 173. | My way of doing things is apt to be misunderstood by others. |
| 174. | I never make judgments about people until I am sure of the facts. |
| 223. | I keep out of trouble at all costs. |
| 225. | People pretend to care more about one another than they really do. |
| 231. | I am apt to show off in some way if I get the chance. |
| 232. | Sometimes I feel that I am about to go to pieces. |
| 256. | I want to be an important person in the community. |
| 258. | In school I found it very hard to talk before the class. |
| 270. | I often lose my temper. |
| 301. | I am afraid to be alone in the dark. |
| 310. | I would rather have people dislike me than look down on me. |
| 340. | Our thinking would be a lot better off if we would just forget about words like "probably," "approximately," and "perhaps." |

Substitution (Male)
(Continued)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|--|
| 347. | I never make judgments about people until I am sure of the facts. |
| 379. | I would rather not have very much responsibility for other people. |
| 397. | Once I have my mind made up I seldom change it. |
| 401. | Most young people get too much education. |
| 404. | I am in favor of a very strick enforcement of all laws, no matter what the consequences. |
| 411. | I am bothered by acid stomach several times a week. |
| 416. | I don't think I'm quite as happy as others seem to be. |
| 430. | The things some of my family have done have frightened me. |
| 447. | If I saw some children hurting another child, I am sure I would try to make them stop. |
| 477. | I get tired more easily than other people seem to. |
| 479. | I sweat very easily even on cool days. |

Haan's Coping Scales (CPI):

Substitution (Female)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|--|
| 19. | I think I would like the work of a building contractor. |
| 55. | Some of my family have quick tempers. |
| 60. | I have often met people who were supposed to be experts who were no better than I. |
| 61. | I liked school. |
| 94. | With things going as they are, it's pretty hard to keep up hope of amounting to something. |
| 119. | Planning one's activities in advance is very likely to take most of the fun out of life. |
| 133. | I feel as good now as I ever have. |
| 165. | I do not mind taking orders and being told what to do. |
| 173. | My way of doing things is apt to be misunderstood by others. |
| 174. | I never make judgments about people until I am sure of the facts. |
| 225. | People pretend to care more about one another than they really do. |
| 228. | I like to read about history. |
| 231. | I am apt to show off in some way if I get the chance. |
| 232. | Sometimes I feel that I am about to go to pieces. |
| 256. | I want to be an important person in the community. |
| 258. | In school I found it very hard to talk before the class. |
| 270. | I often lose my temper. |
| 284. | It is hard for me to act natural when I am with new people. |
| 301. | I am afraid to be alone in the dark. |
| 310. | I would rather have people dislike me than look down on me. |
| 331. | I often start things I never finish. |

Substitution (Female)
(Continued)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|---|
| 340. | Our thinking would be a lot better off if we would just forget about words like "probably," "approximately," and "perhaps." |
| 344. | I am made nervous by certain animals. |
| 347. | I never make judgments about people until I am sure of the facts. |
| 379. | I would rather not have very much responsibility for other people. |
| 397. | Once I have my mind made up I seldom change it. |
| 401. | Most young people get too much education. |
| 404. | I am in favor of a very strict enforcement of all laws, no matter what the consequences. |
| 416. | I don't think I'm quite as happy as others seem to be. |
| 430. | The things some of my family have done have frightened me. |
| 477. | I get tired more easily than other people seem to. |
| 479. | I sweat very easily even on cool days. |

Haan's Coping Scales (CPI):

Suppression (Male)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|---|
| 3. | I looked up to my father as an ideal man. |
| 4. | A person needs to "show off" a little now and then. |
| 70. | Sometimes I cross the street just to avoid meeting someone. |
| 76. | I often feel as if the world was just passing me by. |
| 94. | With things going as they are, it's pretty hard to keep up hope of amounting to something. |
| 96. | I take a rather serious attitude toward ethical and moral issues. |
| 143. | I like to be with a crowd who play jokes on one another. |
| 154. | I like tall women. |
| 160. | I would like to hear a great singer in an opera. |
| 161. | I am sometimes cross and grouchy without any good reason. |
| 168. | My home life was always happy. |
| 175. | I have had blank spells in which my activities were interrupted and I did not know what was going on around me. |
| 176. | I commonly wonder what hidden reason another person may have for doing something nice for me. |
| 198. | Before I do something I try to consider how my friends will react to it. |
| 206. | I have often found people jealous of my good ideas, just because they had not thought of them first. |
| 214. | In school I was sometimes sent to the principal for cutting up. |
| 225. | People pretend to care more about one another than they really do. |
| 239. | I like to talk before groups of people. |
| 253. | When prices are high you can't blame a person for getting all he can while the getting is good. |

Suppression (Male)
(Continued)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|---|
| 267. | I am a better talker than a listener. |
| 270. | I often lose my temper. |
| 311. | I cannot do anything well. |
| 316. | My parents wanted me to "make good" in the world. |
| 337. | Much of the time my head seems to hurt all over. |
| 341. | My people treat me more like a child than a grown-up. |
| 369. | I seem to do things that I regret more often than other people do. |
| 390. | I have not lived the right kind of life. |
| 393. | I have used alcohol excessively. |
| 407. | I have had no difficulty in starting or holding my bowel movement. |
| 416. | I don't think I'm quite as happy as others seem to be. |
| 431. | As a youngster in school I used to give the teachers lots of trouble. |
| 436. | I never cared much for school. |
| 449. | Almost every day something happens to frighten me. |
| 453. | I work under a great deal of tension. |
| 463. | It is hard for me just to sit still and relax. |
| 465. | I must admit that I am a high-strung person. |

Haan's Coping Scales (CPI):

Suppression (Female)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|--|
| 3. | I looked up to my father as an ideal man. |
| 4. | A person needs to "show off" a little now and then. |
| 18. | A person who doesn't vote is not a good citizen. |
| 32. | I tend to be on my guard with people who are somewhat more friendly than I had expected. |
| 76. | I often feel as if the world was just passing me by. |
| 94. | With things going as they are, it's pretty hard to keep up hope of amounting to something. |
| 96. | I take a rather serious attitude toward ethical and moral issues. |
| 143. | I like to be with a crowd who play jokes on one another. |
| 154. | I like tall women. |
| 160. | I would like to hear a great singer in an opera. |
| 176. | I commonly wonder what hidden reason another person may have for doing something nice for me. |
| 198. | Before I do something I try to consider how my friends will react to it. |
| 206. | I have often found people jealous of my good ideas, just because they had not thought of them first. |
| 214. | In school I was sometimes sent to the principal for cutting up. |
| 225. | People pretend to care more about one another than they really do. |
| 243. | I am often bothered by useless thoughts which keep running through my mind. |
| 253. | When prices are high you can't blame a person for getting all he can while the getting is good. |
| 267. | I am a better talker than a listener. |
| 270. | I often lose my temper. |

Suppression (Female)
(Continued)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|---|
| 311. | I cannot do anything well. |
| 316. | My parents wanted me to "make good" in the world. |
| 337. | Much of the time my head seems to hurt all over. |
| 341. | My people treat me more like a child than a grown-up. |
| 351. | Some of my family have habits that bother and annoy me very much. |
| 369. | I seem to do things that I regret more often than other people do. |
| 390. | I have not lived the right kind of life. |
| 393. | I have used alcohol excessively. |
| 407. | I have had no difficulty in starting or holding my bowel movement. |
| 416. | I don't think I'm quite as happy as others seem to be. |
| 431. | As a youngster in school I used to give the teachers lost of trouble. |
| 436. | I never cared much for school. |
| 449. | Almost every day something happens to frighten me. |
| 453. | I work under a great deal of tension. |
| 463. | It is hard for me just to sit still and relax. |
| 465. | I must admit that I am a high-strung person. |

APPENDIX F

HAAN'S DEFENDING SCALES

Haan's Defending Scales (CPI):

Isolation (Male)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|---|
| 19. | I think I would like the work of a building contractor. |
| 42. | I sometimes pretend to know more than I really do. |
| 69. | I would disapprove of anyone's drinking to the point of intoxication at a party. |
| 80. | There have been times when I have been very angry. |
| 86. | Most of the arguments or quarrels I get into are over matters of principle. |
| 102. | I like to be the center of attention. |
| 106. | The average person is not able to appreciate art and music very well. |
| 109. | I get pretty discouraged sometimes. |
| 120. | I do not always tell the truth. |
| 128. | It takes a lot of argument to convince most people of the truth. |
| 143. | I like to be with a crowd who play jokes on one another. |
| 201. | I have no patience with people who believe there is only one true religion. |
| 213. | It makes me angry when I hear of someone who has been wrongly prevented from voting. |
| 232. | Sometimes I feel that I am about to go to pieces. |
| 253. | When prices are high you can't blame a person for getting all he can while the getting is good. |
| 257. | I often feel as though I have done something wrong or wicked. |
| 258. | In school I found it very hard to talk before the class. |
| 290. | I have never been in trouble because of my sex behavior. |
| 316. | My parents wanted me to "make good" in the world. |
| 322. | I do not like to loan my things to people who are careless in the way they take care of them. |

Isolation (Male)
(Continued)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|--|
| 330. | Everything tastes the same. |
| 368. | I have had no difficulty starting or holding my urine. |
| 393. | I have used alcohol excessively. |
| 397. | Once I have my mind made up I seldom change it. |
| 403. | I have a natural talent for influencing people. |
| 404. | I am in favor of a very strict enforcement of all laws, no matter what the consequences. |
| 412. | I like to give orders and get things moving. |
| 416. | I don't think I'm quite as happy as others seem to be. |
| 418. | I am embarrassed with people I do not know well. |
| 455. | There seems to be a lump in my throat much of the time. |
| 466. | I am a very ticklish person. |

Haan's Defending Scales (CPI):

Isolation (Female)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|---|
| 19. | I think I would like the work of a building contractor. |
| 42. | I sometimes pretend to know more than I really do. |
| 60. | I have often met people who were supposed to be experts who were no better than I. |
| 69. | I would disapprove of anyone's drinking to the point of intoxication at a party. |
| 80. | There have been times when I have been very angry. |
| 86. | Most of the arguments or quarrels I get into are over matters of principal. |
| 102. | I like to be the center of attention. |
| 106. | The average person is not able to appreciate art and music very well. |
| 109. | I get pretty discouraged sometimes. |
| 120. | I do not always tell the truth. |
| 143. | I like to be with a crowd who play jokes on one another. |
| 201. | I have no patience with people who believe there is only one true religion. |
| 213. | It makes me angry when I hear of someone who has been wrongly prevented from voting. |
| 232. | Sometimes I feel that I am about to go to pieces. |
| 253. | When prices are high you can't blame a person for getting all he can while the getting is good. |
| 257. | I often feel as though I have done something wrong or wicked. |
| 258. | In school I found it very hard to talk before the class. |
| 260. | I always try to do at least a little better than what is expected of me. |
| 290. | I have never been in trouble because of my sex behavior. |
| 314. | I must admit I try to see what others think before I take a stand. |

Isolation (Female)
(Continued)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|---|
| 316. | My parents wanted me to "make good" in the world. |
| 322. | I do not like to loan my things to people who are careless in the way they take care of them. |
| 368. | I have had no difficulty starting or holding my urine. |
| 393. | I have used alcohol excessively. |
| 397. | Once I have my mind made up I seldom change it. |
| 403. | I have a natural talent for influencing people. |
| 404. | I am in favor of a very strict enforcement of all laws, no matter what the consequences. |
| 412. | I like to give orders and get things moving. |
| 416. | I don't think I'm quite as happy as others seem to be. |
| 418. | I am embarrassed with people I do not know well. |
| 463. | It is hard for me just to sit still and relax. |
| 466. | I am a very ticklish person. |

Haan's Defending Scales (CPI):

Intellectualization (Male)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|--|
| 7. | When in a group of people I usually do what the others want rather than make suggestions. |
| 25. | Clever, sarcastic people make me feel very uncomfortable. |
| 31. | I doubt whether I would make a good leader. |
| 46. | I think I would like the work of a school teacher. |
| 65. | I think I would like the work of a clerk in a large department store. |
| 102. | I like to be the center of attention. |
| 116. | It is annoying to listen to a lecturer who cannot seem to make up his mind as to what he really believes. |
| 172. | I do not have a great fear of snakes. |
| 179. | When I work on a committee I like to take charge of things. |
| 186. | I usually don't like to talk much unless I am with people I know well. |
| 200. | In a group of people I would not be embarrassed to be called upon to start a discussion or give an opinion about something I know well. |
| 215. | I would like to write a technical book. |
| 230. | I would rather be a steady and dependable worker than a brilliant but unstable one. |
| 234. | We ought to pay our elected officials better than we do. |
| 239. | I like to talk before groups of people. |
| 241. | The man who provides temptation by leaving valuable property unprotected is about as much to blame for its theft as the one who steals it. |
| 255. | Only a fool would try to change our American way of life. |
| 263. | Lawbreakers are almost always caught and punished. |
| 266. | I think most people would lie to get ahead. |

Intellectualization (Male)
(Continued)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|---|
| 278. | If I get too much change in a store, I always give it back. |
| 293. | Every now and then I get into a bad mood, and no one can do anything to please me. |
| 302. | I have often gone against my parents' wishes. |
| 333. | Education is more important than most people think. |
| 340. | Our thinking would be a lot better off if we would just forget about words like "probably," "approximately," and "perhaps." |
| 355. | I have strong political opinions. |
| 367. | My home life was always very pleasant. |
| 371. | I would rather be a steady and dependable worker than a brilliant but unstable one. |
| 376. | I enjoy planning things, and deciding what each person should do. |
| 385. | It is pretty easy for people to win arguments with me. |
| 387. | I don't like things to be uncertain and unpredictable. |
| 403. | I have a natural talent for influencing people. |
| 420. | I used to steal sometimes when I was a youngster. |
| 443. | I'm not the type to be a political leader. |
| 448. | People seem naturally to turn to me when decisions have to be made. |
| 466. | I am a very ticklish person. |

Haan's Defending Scales (CPI):

Intellectualization (Female)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|--|
| 7. | When in a group of people I usually do what the others want rather than make suggestions. |
| 25. | Clever, sarcastic people make me feel very uncomfortable. |
| 31. | I doubt whether I would make a good leader. |
| 37. | I have very few fears compared to my friends. |
| 46. | I think I would like the work of a school teacher. |
| 65. | I think I would like the work of a clerk in a large department store. |
| 102. | I like to be the center of attention. |
| 116. | It is annoying to listen to a lecturer who cannot seem to make up his mind as to what he really believes. |
| 133. | I feel as good now as I ever have. |
| 159. | I feel nervous if I have to meet a lot of people. |
| 172. | I do not have a great fear of snakes. |
| 179. | When I work on a committee I like to take charge of things. |
| 186. | I usually don't like to talk much unless I am with people I know very well. |
| 200. | In a group of people I would not be embarrassed to be called upon to start a discussion or give an opinion about something I know well. |
| 215. | I would like to write a technical book. |
| 230. | I would rather be a steady and dependable worker than a brilliant but unstable one. |
| 234. | We ought to pay our elected officials better than we do. |
| 239. | I like to talk before groups of people. |
| 241. | The man who provided temptation by leaving valuable property unprotected is about as much to blame for its theft as the one who steals it. |

Intellectualization (Female)
(Continued)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|--|
| 255. | Only a fool would try to change our American way of life. |
| 263. | Lawbreakers are almost always caught and punished. |
| 293. | Every now and then I get into a bad mood, and no one can do anything to please me. |
| 333. | Education is more important than most people think. |
| 340. | Our thinking would be a lot better off if we would just forget about words like "probably," approximately," and "perhaps." |
| 355. | I have strong political opinions. |
| 367. | My home life was always very pleasant. |
| 371. | I would rather be a steady and dependable worker than a brilliant but unstable one. |
| 376. | I enjoy planning things, and deciding what each person should do. |
| 385. | It is pretty easy for people to win arguments with me. |
| 387. | I don't like things to be uncertain and unpredictable. |
| 403. | I have a natural talent for influencing people. |
| 420. | I used to steal sometimes when I was a youngster. |
| 443. | I'm not the type to be a political leader. |
| 448. | People seem naturally to turn to me when decisions have to be made. |
| 466. | I am a very ticklish person. |

Haan's Defending Scales (COPI):

Rationalization (Male)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|---|
| 13. | I am very slow in making up my mind. |
| 16. | There's no use in doing things for people; you only find that you get it in the neck in the long run. |
| 27. | It makes me feel like a failure when I hear of the success of someone I know. |
| 37. | I have very few fears compared to my friends. |
| 54. | I find it hard to keep my mind on a task or job. |
| 55. | Some of my family have quick tempers. |
| 70. | Sometimes I cross the street just to avoid meeting someone. |
| 79. | I am afraid of deep water. |
| 94. | With things going as they are, it's pretty hard to keep up hope of amounting to something. |
| 102. | I like to be the center of attention. |
| 121. | I was a slow learner in school. |
| 125. | There is something wrong with a person who can't take orders without getting angry or resentful. |
| 144. | I am somewhat afraid of the dark. |
| 165. | I do not mind taking orders and being told what to do. |
| 168. | My home life was always happy. |
| 169. | Teachers often expect too much work from the students. |
| 197. | Once in a while I laugh at a dirty joke. |
| 252. | I sometimes feel that I am a burden to others. |
| 253. | When prices are high you can't blame a person for getting all he can while the getting is good. |
| 258. | In school I found it very hard to talk before the class. |

Rationalization (Male)
(Continued)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|---|
| 307. | If I am driving a car, I try to keep others from passing me. |
| 322. | I do not like to loan my things to people who are careless in the way they take care of them. |
| 329. | It is hard for me to sympathize with someone who is always doubting and unsure about things. |
| 337. | Much of the time my head seems to hurt all over. |
| 341. | My people treat me more like a child than a grown-up. |
| 356. | I seldom worry about my health. |
| 367. | My home life was always very pleasant. |
| 372. | I have reason for feeling jealous of one or more members of my family. |
| 411. | I am bothered by acid stomach several times a week. |
| 417. | Any job is all right with me, so long as it pays well. |
| 429. | Even the idea of giving a talk in public makes me afraid. |
| 430. | The things some of my family have done have frightened me. |
| 463. | It is hard for me just to sit still and relax. |
| 477. | I get tired more easily than other people seem to. |

Haan's Defending Scales (CPI):

Rationalization (Female)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|---|
| 11. | People can pretty easily change me even though I thought that my mind was already made up on a subject. |
| 16. | There's no use in doing things for people; you only find that you get it in the neck in the long run. |
| 27. | It makes me feel like a failure when I hear of the success of someone I know well. |
| 37. | I have very few fears compared to my friends. |
| 55. | Some of my family have quick tempers. |
| 79. | I am afraid of deep water. |
| 94. | With things going as they are, it's pretty hard to keep up hope of amounting to something. |
| 102. | I like to be the center of attention. |
| 121. | I was a slow learner in school. |
| 125. | There is something wrong with a person who can't take orders without getting angry or resentful. |
| 137. | I wish I were not bothered by thoughts about sex. |
| 144. | I am somewhat afraid of the dark. |
| 165. | I do not mind taking orders and being told what to do. |
| 168. | My home life was always happy. |
| 169. | Teachers often expect too much work from the students. |
| 197. | Once in a while I laugh at a dirty joke. |
| 225. | People pretend to care more about one another than they really do. |
| 252. | I sometimes feel that I am a burden to others. |
| 253. | When prices are high you can't blame a person for getting all he can while the getting is good. |
| 258. | In school I found it very hard to talk before the class. |

Rationalization (Female)
(Continued)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|---|
| 307. | If I am driving a car, I try to keep others from passing me. |
| 322. | I do not like to loan my things to people who are careless in the way they take care of them. |
| 329. | It is hard for me to sympathize with someone who is always doubting and unsure about things. |
| 337. | Much of the time my head seems to hurt all over. |
| 341. | My people treat me more like a child than a grown-up. |
| 356. | I seldom worry about my health. |
| 367. | My home life was always very pleasant. |
| 372. | I have reason for feeling jealous of one or more members of my family. |
| 411. | I am bothered by acid stomach several times a week. |
| 417. | Any job is all right with me, so long as it pays well. |
| 429. | Even the idea of giving a talk in public makes me afraid. |
| 430. | The things some of my family have done have frightened me. |
| 463. | It is hard for me just to sit still and relax. |
| 477. | I get tired more easily than other people seem to. |

Haan's Defending Scales (CPI):

Doubt (Male)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|---|
| 13. | I am very slow in making up my mind. |
| 37. | I have very few fears compared to my friends. |
| 38. | It is hard for me to start a conversation with strangers. |
| 40. | I get very nervous if I think that someone is watching me. |
| 54. | I find it hard to keep my mind on a task or job. |
| 76. | I often feel as if the world was just passing me by. |
| 94. | With things going as they are, it's pretty hard to keep up hope of amounting to something. |
| 111. | When in a group of people I have trouble thinking of the right things to talk about. |
| 129. | I think I would like to drive a racing car. |
| 144. | I am somewhat afraid of the dark. |
| 161. | I am sometimes cross and grouchy without any good reason. |
| 177. | I am certainly lacking in self-confidence. |
| 202. | If given the chance I would make a good leader of people. |
| 227. | It is hard for me to find anything to talk about when I meet a new person. |
| 245. | Most of the time I feel happy. |
| 264. | I would be very unhappy if I was not successful at something I had seriously started to do. |
| 279. | I often get disgusted with myself. |
| 284. | It is hard for me to act natural when I am with new people. |
| 305. | I often wish people would be more definite about things. |
| 335. | There are times when I act like a coward. |

Doubt (Male)
(Continued)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|--|
| 341. | My people treat me more like a child than a grown-up. |
| 344. | I am made nervous by certain animals. |
| 351. | Some of my family have habits that bother and annoy me very much. |
| 368. | I have had no difficulty starting or holding my urine. |
| 369. | I seem to do things that I regret more often than other people do. |
| 416. | I don't think I'm quite as happy as others seem to be. |
| 419. | It often seems that my life has no meaning. |
| 422. | I feel like giving up quickly when things go wrong. |
| 429. | Even the idea of giving a talk in public makes me afraid. |
| 449. | Almost every day something happens to frighten me. |
| 452. | I dislike to have to talk in front of a group of people. |
| 456. | I have more trouble concentrating than others seem to have. |
| 467. | At times I think I am no good at all. |

Haan's Defending Scales (CPI):

Doubt (Female)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|--|
| 13. | I am very slow in making up my mind. |
| 37. | I have very few fears compared to my friends. |
| 38. | It is hard for me to start a conversation with strangers. |
| 40. | I get very nervous if I think that someone is watching me. |
| 54. | I find it hard to keep my mind on a task or job. |
| 66. | Sometimes I feel like swearing. |
| 76. | I often feel as if the world was just passing me by. |
| 94. | With things going as they are, it's pretty hard to keep up hope of amounting to something. |
| 97. | I would like the job of a foreign correspondent for a newspaper. |
| 111. | When in a group of people I have trouble thinking of the right things to talk about. |
| 129. | I think I would like to drive a racing car. |
| 144. | I am somewhat afraid of the dark. |
| 177. | I am certainly lacking in self-confidence. |
| 192. | When I meet a stranger I often think that he is better than I am. |
| 202. | If given the chance I would make a good leader of people. |
| 227. | It is hard for me to find anything to talk about when I meet a new person. |
| 239. | I like to talk before groups of people. |
| 245. | Most of the time I feel happy. |
| 252. | I sometimes feel that I am a burden to others. |
| 279. | I often get disgusted with myself. |
| 284. | It is hard for me to act natural when I am with new people. |
| 335. | There are times when I act like a coward. |

Doubt (Female)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|---|
| 341. | My people treat me more like a child than a grown-up. |
| 344. | I am made nervous by certain animals. |
| 351. | Some of my family have habits that bother and annoy me very much. |
| 367. | My home life was always very pleasant. |
| 368. | I have had no difficulty starting or holding my urine. |
| 369. | I seem to do things that I regret more often than other people do. |
| 373. | My table manners are not quite as good at home as when I am out in company. |
| 383. | I usually have to stop and think before I act even in trifling matters. |
| 416. | I don't think I'm quite as happy as others seem to be. |
| 419. | It often seems that my life has no meaning. |
| 422. | I feel like giving up quickly when things go wrong. |
| 429. | Even the idea of giving a talk in public makes me afraid. |
| 449. | Almost every day something happens to frighten me. |
| 452. | I dislike to have to talk in front of a group of people. |
| 456. | I have more trouble concentrating than other seem to have. |
| 467. | At times I think I am no good at all. |

Haan's Defending Scales (CPI):

Projection (Male)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|--|
| 41. | For most questions there is just one right answer, once a person is able to get all the facts. |
| 59. | The trouble with many people is that they don't take things seriously enough. |
| 62. | I think Lincoln was greater then Washington. |
| 63. | It is a good thing to be frank. |
| 67. | I feel sure that there is only one true religion. |
| 76. | I often feel as if the world was just passing my by. |
| 83. | I usually feel nervous and ill at ease at a formal dance or party. |
| 90. | As long as a person votes every four years, he has done his duty at a citizen. |
| 98. | People today have forgotten how to feel properly ashamed of themselves. |
| 121. | I was a slow learner in school. |
| 125. | There is something wrong with a person who can't take orders without getting angry or resentful. |
| 133. | I feel as good now as I ever have. |
| 143. | I like to be with a crowd who play jokes on one another. |
| 153. | If I am not feeling well I am somewhat cross and grouchy. |
| 168. | My home life was always happy. |
| 173. | My way of doing things is apt to be misunderstood by others. |
| 186. | I usually don't like to talk much unless I am with people I know very well. |
| 197. | Once in a while I laugh at a dirty joke. |
| 212. | I have never been in trouble with the law. |
| 220. | I feel uneasy indoors. |

Projection (Male)
(Continued)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|--|
| 257. | I often feel as though I have done something wrong or wicked. |
| 258. | In school I found it very hard to talk before the class. |
| 259. | I usually feel that life is worthwhile. |
| 270. | I often lose my temper. |
| 282. | A large number of people are guilty of bad sexual conduct. |
| 355. | I have strong political opinions. |
| 362. | I have never seen a vision. |
| 368. | I have had no difficulty starting or holding my urine. |
| 404. | I am in favor of a very strict enforcement of all laws, no matter what the consequences. |
| 405. | People often talk about me behind my back. |
| 418. | I am embarrassed with people I do not know well. |
| 436. | I never cared much for school. |
| 474. | I sometimes tease animals. |

Haan's Defending Scales (CPI):

Projection (Female)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|--|
| 41. | For most questions there is just one right answer, once a person is able to get all the facts. |
| 58. | I get very tense and anxious when I think other people are disapproving of me. |
| 59. | The trouble with many people is that they don't take things seriously enough. |
| 63. | It is always a good thing to be frank. |
| 67. | I feel sure that there is only one true religion. |
| 76. | I often feel as if the world was just passing me by. |
| 90. | As long as a person votes every four years, he has done his duty as a citizen. |
| 98. | People today have forgotten how to feel properly ashamed of themselves. |
| 125. | There is something wrong with a person who can't take orders without getting angry or resentful. |
| 133. | I feel as good now as I ever have. |
| 143. | I like to be with a crowd who play jokes on one another. |
| 153. | If I am not feeling well I am somewhat cross and grouchy. |
| 168. | My home life was always happy. |
| 173. | My way of doing things is apt to be misunderstood by others. |
| 182. | I would rather go without something than ask for a favor. |
| 197. | Once in a while I laugh at a dirty joke. |
| 212. | I have never been in trouble with the law. |
| 220. | I feel uneasy indoors. |
| 258. | In school I found it very hard to talk before the class. |

Projection (Female)
(Continued)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|--|
| 259. | I usually feel that life is worthwhile. |
| 270. | - I often lose my temper. |
| 355. | I have strong political opinions. |
| 362. | I have never seen a vision. |
| 368. | I have had no difficulty starting or holding my urine. |
| 405. | People often talk about me behind my back. |
| 436. | I never cared much for school. |
| 474. | I sometimes tease animals. |

Haan's Defending Scales (CPI):

Regression (Male)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|---|
| 5. | Our thinking would be a lot better off if we would just forget about words like "probably," "approximately," and "perhaps." |
| 13. | I am very slow in making up my mind. |
| 24. | I always like to keep my things neat and tidy and in good order. |
| 44. | Sometimes I feel like smashing things. |
| 47. | Women should not be allowed to drink in cocktail bars. |
| 54. | I find it hard to keep my mind on a task or job. |
| 71. | I get excited very easily. |
| 76. | I often feel as if the world was just passing me by. |
| 81. | I must admit I often try to get my own way regardless of what others may want. |
| 83. | I usually feel nervous and ill at ease at a formal dance or party. |
| 91. | Sometimes I think of things too bad to talk about. |
| 121. | I was a slow learner in school. |
| 143. | I like to be with a crowd who play jokes on one another. |
| 149. | I consider a matter from every standpoint before I make a decision. |
| 150. | Criticism or scolding makes me very uncomfortable. |
| 168. | My home life was always happy. |
| 197. | Once in a while I laugh at a dirty joke. |
| 212. | I have never been in trouble with the law. |
| 221. | People have a real duty to take care of their aged parents, even if it means making some pretty big sacrifices. |
| 238. | Sometimes I just can't seem to get going. |
| 245. | Most of the time I feel happy. |

Regression (Male)
(Continued)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|---|
| 246. | I like to plan out my activities in advance. |
| 252. | I sometimes feel that I am a burden to others. |
| 257. | I often feel as though I have done something wrong or wicked. |
| 262. | There have been a few times when I have been very mean to another person. |
| 267. | I am a better talker than a listener. |
| 341. | My people treat me more like a child than a grown-up. |
| 368. | I have had no difficulty starting or holding my urine. |
| 369. | I seem to do things that I regret more often than other people do. |
| 380. | I am known as a hard and steady worker. |
| 416. | I don't think I'm quite as happy as others seem to be. |
| 419. | It often seems that my life has no meaning. |
| 429. | Even the idea of giving a talk in public makes me afraid. |
| 451. | I set a high standard for myself and I feel others should do the same. |
| 467. | At times I think I am no good at all. |

Haan's Defending Scales (CPI):

Regression (Female)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|---|
| 5. | Our thinking would be a lot better off if we would just forget about words like "probably," "approximately," and "perhaps." |
| 13. | I am very slow in making up my mind. |
| 24. | I always like to keep my things neat and tidy and in good order. |
| 35. | I become quite irritated when I see someone spit on the sidewalk. |
| 37. | I have very few fears compared to my friends. |
| 44. | Sometimes I feel like smashing things. |
| 47. | Women should not be allowed to drink in cocktail bars. |
| 71. | I get excited very easily. |
| 76. | I often feel as if the world was just passing me by. |
| 81. | I must admit I often try to get my own way regardless of what others may want. |
| 91. | Sometimes I think of things too bad to talk about. |
| 121. | I was a slow learner in school. |
| 143. | I like to be with a crowd who play jokes on one another. |
| 149. | I consider a matter from every standpoint before I make a decision. |
| 168. | My home life was always happy. |
| 187. | I am inclined to take things hard. |
| 197. | Once in a while I laugh at a dirty joke. |
| 212. | I have never been in trouble with the law. |
| 221. | People have a real duty to take care of their aged parents, even if it means making some pretty big sacrifices. |
| 238. | Sometimes I just can't seem to get going. |
| 245. | Most of the time I feel happy. |

Regression (Female)
(Continued)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|---|
| 246. | I like to plan out my activities in advance. |
| 252. | I sometimes feel that I am a burden to others. |
| 257. | I often feel as though I have done something wrong or wicked. |
| 262. | There have been a few times when I have been very mean to another person. |
| 373. | I am bothered by people outside, on streetcars, in stores, etc., watching me. |
| 341. | My people treat me more like a child than a grown-up. |
| 361. | I like to have a place for everything and everything in its place. |
| 367. | My home life was always very pleasant. |
| 368. | I have had no difficulty starting or holding my urine. |
| 369. | I seem to do things that I regret more often than other people do. |
| 380. | I am known as a hard and steady worker. |
| 416. | I don't think I'm quite as happy as others seem to be. |
| 419. | It often seems that my life has no meaning. |
| 429. | Even the idea of giving a talk in public makes me afraid. |
| 451. | I set a high standard for myself and I feel others should do the same. |
| 467. | At times I think I am no good at all. |

Haan's Defending Scales (CPI):

Denial (Male)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|--|
| 3. | I looked up to my father as an ideal man. |
| 8. | I liked "Alice in Wonderland" by Lewis Carroll. |
| 18. | A person who doesn't vote is not a good citizen. |
| 32. | I tend to be on my guard with people who are somewhat more friendly than I had expected. |
| 36. | When I was going to school I played hooky quite often. |
| 41. | For most questions there is just one right answer, once a person is able to get all the facts. |
| 45. | As a child I used to be able to go to my parents with my problems. |
| 54. | I find it hard to keep my mind on a task or job. |
| 70. | Sometimes I cross the street just to avoid meeting someone. |
| 121. | I was a slow learner in school. |
| 128. | It takes a lot of argument to convince most people of the truth. |
| 131. | One of my aims in life is to accomplish something that would make my mother proud of me. |
| 143. | I like to be with a crowd who play jokes on one another. |
| 152. | I read at least ten books a year. |
| 180. | My parents have generally let me make my own decisions. |
| 186. | I usually don't like to talk much unless I am with people I know well. |
| 229. | I much prefer symmetry to asymmetry. |
| 230. | I would rather be a steady and dependable worker than a brilliant but unstable one. |
| 243. | I am often bothered by useless thoughts which keep running through my mind. |
| 245. | Most of the time I feel happy. |

Denial (Male)
(Continued)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|--|
| 253. | When prices are high you can't blame a person for getting all he can while the getting is good. |
| 263. | Lawbreakers are almost always caught and punished. |
| 285. | I refused to play some games because I am not good at them. |
| 289. | There have been times when I have worried a lot about something that was not really important. |
| 309. | I have been afraid of things or people that I knew could not hurt me. |
| 312. | Any man who is able and willing to work hard has a good chance of succeeding. |
| 327. | I find it easy to "drop" or "break with" a friend. |
| 357. | For most questions there is just one right answer, once a person is able to get all the facts. |
| 373. | My table manners are not quite as good at home as when I am out in company. |
| 375. | There are certain people whom I dislike so much that I am inwardly pleased when they are catching it for something they have done. |
| 378. | I doubt if anyone is really happy. |
| 404. | I am in favor of a very strict enforcement of all laws, no matter what the consequences. |
| 444. | My parents never really understood me. |
| 467. | At times I think I am no good at all. |

Haan's Defending Scales (CPI):

Denial (Female)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|--|
| 3. | I looked up to my father as an ideal man. |
| 8. | I liked "Alice in Wonderland" by Lewis Carroll. |
| 18. | A person who doesn't vote is not a good citizen. |
| 32. | I tend to be on my guard with people who are somewhat more friendly than I had expected. |
| 36. | When I was going to school I played hooky quite often. |
| 41. | For most questions there is just one right answer, once a person is able to get all the facts. |
| 45. | As a child I used to be able to go to my parents with my problems. |
| 54. | I find it hard to keep my mind on a task or job. |
| 70. | Sometimes I cross the street just to avoid meeting someone. |
| 86. | Most of the arguments or quarrels I get into are over matter of principle. |
| 88. | I do not like to see people carelessly dressed. |
| 114. | At times I feel like picking a fist fight with someone. |
| 121. | I was a slow learner in school. |
| 128. | It takes a lot of argument to convince most people of the truth. |
| 131. | One of my aims in life is to accomplish something that would make my mother proud of me. |
| 143. | I like to be with a crowd who play jokes on one another. |
| 152. | I read at least ten books a year. |
| 229. | I much prefer symmetry to asymmetry. |
| 230. | I would rather be a steady and dependable worker than a brilliant but unstable one. |
| 243. | I am often bothered by useless thoughts which keep running through my mind. |

Denial (Female)
(Continued)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|--|
| 245. | Most of the time I feel happy. |
| 253. | When prices are high you can't blame a person for getting all he can while the getting is good. |
| 263. | Lawbreakers are almost always caught and punished. |
| 285. | I refuse to play some games because I am not good at them. |
| 289. | There have been times when I have worried a lot about something that was not really important. |
| 309. | I have been afrid of things or people that I knew could not hurt me. |
| 312. | Any man who is able and willing to work hard has a good chance of succeeding. |
| 327. | I find it easy to "drop" or "break with" a friend. |
| 357. | For most questions there is just one right answer, once a person is able to get all the facts. |
| 373. | My table manners are not quite as good at home as when I am out in company. |
| 375. | There are certain people whom I dislike so much that I am inwardly pleased when they are catching it for something they have done. |
| 378. | I doubt if anyone is really happy. |
| 380. | I am known as a hard and steady worker. |
| 395. | It is very important to me to have enough friends and social life. |
| 404. | I am in favor of a very strict enforcement of all laws, no matter what the consequences. |
| 444. | My parents never really understood me. |
| 456. | I have more trouble concentrating than others seem to have. |

Haan's Defending Scales (CPI):

Displacement (Male)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|---|
| 5. | Our thinking would be a lot better off if we would just forget about words like "probably," "approximately," and "perhaps." |
| 37. | I have very few fears compared to my friends. |
| 54. | I find it hard to keep my mind on a task or job. |
| 70. | Sometimes I cross the street just to avoid meeting someone. |
| 71. | I get excited very easily. |
| 76. | I often feel as if the world was just passing me by. |
| 77. | When I get bored I like to stir up some excitement. |
| 81. | I must admit I often try to get my own way regardless of what others may want. |
| 94. | With things going as they are, it's pretty hard to keep up hope of amounting to something. |
| 102. | I like to be the center of attention. |
| 121. | I was a slow learner in school. |
| 149. | I consider a matter from every standpoint before I make a decision. |
| 153. | If I am not feeling well I am somewhat cross and grouchy. |
| 161. | I am sometimes cross and grouchy without any good reason. |
| 214. | In school I was sometimes sent to the principal for cutting up. |
| 224. | I usually expect to succeed in things I do. |
| 232. | Sometimes I feel that I am about to go to pieces. |
| 243. | I am often bothered by useless thoughts which keep running through my mind. |
| 247. | When a man is with a woman he is usually thinking about things related to her sex. |
| 248. | I must admit that I have a bad temper, once I get angry. |

Displacement (Male)
(Continued)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|---|
| 252. | I sometimes feel that I am a burden to others. |
| 257. | I often feel as though I have done something wrong or wicked. |
| 258. | In school I found it very hard to talk before the class. |
| 262. | There have been a few times when I have been very mean to another person. |
| 340. | Our thinking would be a lot better off if we would just forget about the words like "probably," "approximately," and "perhaps." |
| 369. | I seem to do things that I regret more often than other people do. |
| 407. | I have had no difficulty in starting or holding my bowel movement. |
| 413. | I get all the sympathy I should. |
| 416. | I don't think I'm quite as happy as others seem to be. |
| 417. | Any job is all right with me, so long as it pays well. |
| 419. | It often seems that my life has no meaning. |
| 436. | I never cared much for school. |
| 450. | I get sort of annoyed with writers who go out of their way to use strange and unusual words. |
| 456. | I have more trouble concentrating than others seem to have. |
| 463. | It is hard for me just to sit still and relax. |
| 471. | I sometimes feel that I do not deserve as good a life as I have. |

Haan's Defending Scales (CPI):

Displacement (Female)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|---|
| 5. | Our thinking would be a lot better off if we would just forget about words like "probably," "approximately," and "perhaps." |
| 25. | Clever, sarcastic people make me feel very uncomfortable. |
| 32. | I tend to be on my guard with people who are somewhat more friendly than I hav expected. |
| 71. | I get excited very easily. |
| 76. | I often feel as if the world was just passing me by. |
| 77. | When I get bored I like to stir up some excitement. |
| 81. | I must admit I often try to get my own way regardless of what others may want. |
| 94. | With things going as they are, it's pretty hard to keep up hope of amounting to something. |
| 121. | I was a slow learner in school. |
| 149. | I consider a matter from every stanpoint before I make a decision. |
| 153. | If I am not feeling well I am somewhat cross and grouchy. |
| 161. | I am sometimes cross and grouchy without any good reason. |
| 214. | In school I was sometimes sent to the principal for cutting up. |
| 224. | I usually expect to succeed in things I do. |
| 232. | Sometimes I feel that I am about to go to pieces. |
| 247. | When a man is with a woman he is usually thinking about things related to her sex. |
| 248. | I must admit that I have a bad temper, once I get angry. |
| 252. | I sometimes feel that I am a burden to others. |
| 257. | I often feel as though I have done something wrong or wicked. |

Displacement (Female)
(Continued)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|---|
| 258. | In school I found it very hard to talk before the class. |
| 262. | There have been a few times when I have been very mean to another person. |
| 340. | Our thinking would be a lot better off if we would just forget about words like "probably," "approximately," and "perhaps." |
| 369. | I seem to do things that I regret more often than other people do. |
| 407. | I have had no difficulty in starting or holding my bowel movement. |
| 416. | I don't think I'm quite as happy as others seem to be. |
| 419. | It often seems that my life has no meaning. |
| 436. | I never cared much for school. |
| 456. | I have more trouble concentrating than others seem to have. |
| 463. | It is hard for me just to sit still and relax. |
| 471. | I sometimes feel that I do not deserve as good a life as I have. |

Haan's Defending Scales (CPI):

Reaction Formation (Male)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|---|
| 1. | I enjoy social gatherings just to be with people. |
| 11. | People can pretty easily change me even though I thought that my mind was already made up on a subject. |
| 18. | A person who doesn't vote is not a good citizen. |
| 19. | I think I would like the work of a building contractor. |
| 75. | We ought to worry about our own country and let the rest of the world take care of itself. |
| 87. | I like adventure stories better than romantic stories. |
| 88. | I do not like to see people carelessly dressed. |
| 92. | People often expect too much of me. |
| 100. | I prefer a shower to a bathtub. |
| 113. | School teachers complain a lot about their pay, but it seems to me that they get as much as they deserve. |
| 121. | I was a slow learner in school. |
| 123. | I think I am stricter about right and wrong than most people. |
| 128. | It takes a lot of argument to convince most people of the truth. |
| 141. | Parents are much too easy on their children nowadays. |
| 152. | I read at least ten books a year. |
| 160. | I would like to hear a great singer in an opera. |
| 186. | I usually don't like to talk much unless I am with people I know very well. |
| 210. | I very much like hunting. |
| 211. | I have frequently found myself, when alone, pondering such abstract problems as freewill, evil, etc. |
| 217. | I think I would like the work of a librarian. |

Reaction Formation (Male)
(Continued)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|---|
| 219. | Most people inwardly dislike putting themselves out to help other people. |
| 244. | If I were a reporter I would like very much to report news of the theater. |
| 249. | I like mechanics magazines. |
| 258. | In school I found it very hard to talk before the class. |
| 264. | I would be very unhappy if I was not successful at something I had seriously started to do. |
| 269. | I like science. |
| 293. | Every now and then I get into a bad mood, and no one can do anything to please me. |
| 389. | I get pretty discouraged with the law when a smart lawyer gets a criminal free. |
| 395. | It is very important to me to have enough friends and social life. |
| 400. | I think I am stricter about right and wrong than most people. |
| 404. | I am in favor of a very strict enforcement of all laws, no matter the consequences. |
| 418. | I am embarrassed with people I do not know well. |
| 443. | I'm not the type to be a political leader. |

Haan's Defending Scales (CPI):

Reaction Formation (Female)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|---|
| 1. | I enjoy social gatherings just to be with people. |
| 11. | People can pretty easily change me even though I thought that my mind was already made up on a subject. |
| 18. | A person who doesn't vote is not a good citizen. |
| 19. | I think I would like the work of a building contractor. . |
| 37. | I have very few fears compared to my friends. |
| 75. | We ought to worry about our own country and let the rest of the world take care of itself. |
| 87. | I like adventure stories better than romantic stories. |
| 88. | I do not like to see people carelessly dressed. |
| 92. | People often expect too much of me. |
| 100. | I prefer a shower to a bathtub. |
| 113. | School teachers complain a lot about their pay, but it seems to me that they get as much as they deserve. |
| 121. | I was a slow learner in school. |
| 123. | I think I am stricter about right and wrong than most people. |
| 141. | Parents are much too easy on their children nowadays. |
| 152. | I read at least ten books a year. |
| 160. | I would like to hear a great singer in an opera. |
| 161. | I am sometimes cross and grouchy without any good reason. |
| 163. | I like parties and socials. |
| 186. | I usually don't like to talk much unless I am with people I know very well. |
| 210. | I very much like hunting. |

Reaction Formation (Female)
(Continued)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|--|
| 211. | I have frequently found myself, when alone, pondering such abstract problems as freewill, evil, etc. |
| 217. | I think I would like the work of a librarian. |
| 244. | If I were a reporter I would like very much to report news of the theater. |
| 249. | I like mechanics magazines. |
| 258. | In school I found it very hard to talk before the class. |
| 264. | I would be very unhappy if I was not successful as something I had seriously started to do. |
| 269. | I like science. |
| 293. | Every now and then I get into a bad mood, and no one can do anything to please me. |
| 322. | I do not like to loan my things to people who are careless in the way they take care of them. |
| 389. | I get pretty discouraged with the law when a smart lawyer gets a criminal free. |
| 395. | It is very important to me to have enough friends and social life. |
| 400. | I think I am stricter about right and wrong than most people. |
| 404. | I am in favor of a very strict enforcement of all laws, no matter what the consequences. |
| 443. | I'm not the type to be a political leader. |
| 480. | I must admit it would bother me to put a worm on a fish hook. |

Haan's Defending Scales (CPI):

Repression (Male)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|---|
| 4. | A person needs to "show off" a little now and then. |
| 5. | Our thinking would be a lot better off if we would just forget about words like "probably," "approximately," and "perhaps." |
| 7. | When in a group of people I usually do what the others want rather than make suggestions. |
| 17. | I would like to be a journalist. |
| 18. | A person who doesn't vote is not a good citizen. |
| 25. | Clever, sarcastic people make me feel very uncomfortable. |
| 28. | I think I would like the work of a dress designer. |
| 41. | For most questions there is just one right answer, once a person is able to get all the facts. |
| 45. | As a child I used to be able to go to my parents with my problems. |
| 73. | Maybe some minority groups do get rough treatment, but it's no problem of mind. |
| 76. | I often feel as if the world was just passing me by. |
| 86. | Most of the arguments or quarrels I get into are over matters of principle. |
| 88. | I do not like to see people carelessly dressed. |
| 89. | Once a week or oftener I feel suddenly hot all over, without apparent cause. |
| 97. | I would like the job of a foreign correspondent for a newspaper. |
| 121. | I was a slow learner in school. |
| 124. | I am likely not to speak to people until they speak to me. |
| 152. | I read at least ten books a year. |
| 159. | I feel nervous if I have to meet a lot of people. |

Repression (Male)
(Continued)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|---|
| 187. | I am inclined to take things hard. |
| 210. | I very much like hunting. |
| 211. | I have frequently found myself, when alone, pondering such abstract problems as freewill, evil, etc. |
| 213. | It makes me angry when I hear of someone who has been wrongly prevented from voting. |
| 229. | I much prefer symmetry to asymmetry. |
| 242. | I am a good mixer. |
| 244. | If I were a reporter I would like very much to report news of the theater. |
| 292. | I used to like it very much when one of my papers was read to the class in school. |
| 295. | I would be willing to give money myself in order to right a wrong, even though I was not mixed up in it in the first place. |
| 305. | I often wish people would be more definite about things. |
| 320. | I would be willing to describe myself as a pretty "strong" personality. |
| 361. | I like to have a place for everything and everything in its place. |
| 399. | At times I have been so entertained by the cleverness of a crook that I have hoped he would get by with it. |
| 429. | Even the idea of giving a talk in public makes me afraid. |

Haan's Defending Scales (CPI):

Repression (Female)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|---|
| 4. | A person needs to "show off" a little now and then. |
| 5. | Our thinking would be a lot better off if we would just forget about words like "probably," "approximately," and "perhaps." |
| 7. | When in a group of people I usually do what the others want rather than make suggestions. |
| 17. | I would like to be a journalist. |
| 18. | A person who doesn't vote is not a good citizen. |
| 25. | Clever, sarcastic people make me feel very uncomfortable. |
| 28. | I think I would like the work of a dress designer. |
| 41. | For most questions there is just one right answer, once a person is able to get all the facts. |
| 45. | As a child I used to be able to go to my parents with my problems. |
| 73. | Maybe some minority groups do get rough treatment, but it's no business of mind. |
| 76. | I often feel as if the world was just passing me by. |
| 86. | Most of the arguments or quarrels I get into are over matters of principle. |
| 88. | I do not like to see people carelessly dressed. |
| 97. | I would like the job of a foreign correspondent for a newspaper. |
| 121. | I was a slow learner in school. |
| 124. | I am likely not to speak to people until they speak to me. |
| 152. | I read at least ten books a year. |
| 187. | I am inclined to take things hard. |
| 209. | Most people are honest chiefly through fear of being caught. |
| 210. | I very much like hunting. |

Repression (Female)
(Continued)

| <u>Item #</u> | <u>Test Item</u> |
|---------------|---|
| 211. | I have frequently found myself, when alone, pondering such abstract problems as freewill, evil, etc. |
| 213. | It makes me angry when I hear of someone who has been wrongly prevented from voting. |
| 244. | If I were a reporter I would like very much to report news of the theater. |
| 284. | It is hard for me to act natural when I am with new people. |
| 292. | I used to like it very much when one of my papers was read to the class in school. |
| 295. | I would be willing to give money myself in order to right a wrong, even though I was not mixed up in it in the first place. |
| 320. | I would be willing to describe myself as a pretty "strong" personality. |
| 361. | I like to have a place for everything and everything in its place. |
| 399. | At times I have been so entertained by the cleverness of a crook that I have hoped he would get by with it. |
| 429. | Even the idea of giving a talk in public makes me afraid. |
| 459. | My sleep is fitful and disturbed. |

APPENDIX G

STRESS MANAGEMENT BEHAVIORAL CHECKLIST

STRESS MANAGEMENT BEHAVIORAL CHECKLIST

Name _____ Date _____

Age _____ Sex _____ Height _____ Weight _____

Muscular Frame: Large _____ Medium _____ Small _____

Recommended body build and weight (see chart) _____

Do you live in an urban or rural environment? _____

In the past five weeks:

Number of days missed at work due to physical illness _____

Number of days missed at work due to "mental health" _____

Number of confrontations with people in work setting _____

Pulse rate active _____

resting _____

Blood pressure _____ / _____

NUTRITION

Circle the response which most applies to you:

1. I thoroughly chew my food before swallowing:
a) always b) usually c) rarely d) never
2. I take time for leisurely, relaxing meals:
a) always b) usually c) rarely d) never
3. I avoid foods which are high in fats and carbohydrates:
a) always b) usually c) rarely d) never
4. I avoid processed foods whenever possible:
a) always b) usually c) rarely d) never
5. I add salt to my food:
a) never b) rarely c) usually d) always
6. I try to nutritionally balance my meals and/or supplement them with vitamins when necessary:
a) always b) usually c) rarely d) never
7. I eat an average of ____ cakes, pastries, or other high energy foods (not including chocolate bars) per day:
a) 0-1 b) 2-3 c) 4-5 d) 6+
8. I drink an average of ____ 12 ounce cola beverages per day:
a) 0-1 b) 2-3 c) 4-5 d) 6+
9. I use an average of ____ tablespoons of refined sugar per day:
a) 0-1 b) 2-3 c) 4-5 d) 6+
10. I drink an average of ____ cups of coffee or tea (not including herbal teas) per day:
a) 0-1 b) 2-3 c) 4-5 d) 6+
11. I eat an average of ____ one ounce chocolate bars per week:
a) 0-1 b) 2-3 c) 4-5 d) 6+

12. I smoke an average of ____ cigarettes per day:
 a) 0-10 b) 11-20 c) 21-30 d) 31-40+
13. I eat meat (beef, pork, hamburger, etc., but not including poultry) ____ times per week:
 a) 0-3 b) 4-7 c) 8-11 d) 12-16+
14. I eat at fast food chains an average of ____ times per week:
 a) 0-1 b) 2-3 c) 4-5 d) 6+
15. I drink an average of ____ alcoholic beverages (liquor, wine, beer) per week:
 a) 0-1 b) 2-3 c) 4-5 d) 6+
16. Drugs or medication other than caffeine or alcohol per week (include dose where possible):
- a) aspirin _____
 - b) amphetamines (pep pills, diet pills) _____
 - c) tranquilizers (sleeping or nerve pills, eg: "Miltown", "Librium", "Seconal") _____
 - d) pain pills (codeine, "Demerol", etc.) _____
 - e) antihistamines or allergy pills _____
 - f) marijuana or other non-classified _____
17. Write the number of servings that you eat from each of the food groups on an average day:

| | <u>Food Group</u> | <u># of Servings:</u> |
|------------|-----------------------|-----------------------|
| Breakfast: | fruits and vegetables | _____ |
| | meats and cheese | _____ |
| | breads and cereals | _____ |
| | dairy products | _____ |
| Lunch: | fruits and vegetables | _____ |
| | meats and cheese | _____ |
| | breads and cereals | _____ |
| | dairy products | _____ |
| Dinner: | fruits and vegetables | _____ |
| | meats and cheese | _____ |
| | breads and cereals | _____ |
| | dairy products | _____ |
| Snacks: | fruits and vegetables | _____ |
| | meats and cheese | _____ |
| | breads and cereals | _____ |
| | dairy products | _____ |

PSYCHOLOGICAL

1. I am bored:
a) never b) rarely c) usually d) always
2. I understand my feelings:
a) always b) usually c) rarely d) never
3. I share my feelings with others:
a) always b) usually c) rarely d) never
4. I feel fatigued:
a) never b) rarely c) usually d) always
5. I feel like I have control over my life:
a) always b) usually c) rarely d) never
6. I worry (am preoccupied):
a) never b) rarely c) usually d) always
7. I am easily annoyed by little things:
a) never b) rarely c) usually d) always
8. I perceive myself as being in a crisis situation:
a) never b) rarely c) usually d) always
9. Basically, I feel like I enjoy myself and the world:
a) always b) usually c) rarely d) never
10. I enjoy my work:
a) always b) usually c) rarely d) never
11. I get along well with my boss:
a) always b) usually c) rarely d) never
12. I get along well with my colleagues:
a) always b) usually c) rarely d) never
13. I feel rushed:
a) never b) rarely c) usually d) always

14. I find it easy to relax when I have time on my hands:
 a) always b) usually c) rarely d) never
15. When I have a problem I talk about it with a friend or colleague:
 a) always b) usually c) rarely d) never
16. I find sufficient time to finish my work:
 a) always b) usually c) rarely d) never
17. I am anxious when I don't have anything to keep me busy:
 a) never b) rarely c) usually d) always
18. When under pressure I tend to loose my temper:
 a) never b) rarely c) usually d) always

PHYSICAL

1. I have trouble falling and/or staying asleep ____ times per week:
 a) 0-1 b) 2-3 c) 4-5 d) 6+
2. I have a nervous stomach ____ times per week:
 a) 0-1 b) 2-3 c) 4-5 d) 6+
3. I experience constipation or diarrrhia ____ times per week:
 a) 0-1 b) 2-3 c) 4-5 d) 6+
4. I experience headaches or muscle tension ____ times per week:
 a) 0-1 b) 2-3 c) 4-5 d) 6+
5. I get cold hands and/or feet ____ times per week:
 a) 0-1 b) 2-3 c) 4-5 d) 6+
6. I bite my nails or grit my teeth about ____ times per week:
 a) 0-1 b) 2-3 c) 4-5 d) 6+
7. I get cold symptoms an average of ____ times per week:
 a) 0-1 b) 2-3 c) 4-5 d) 6+
8. I am short of breath about ____ times per week:
 a) 0-1 b) 2-3 c) 4-5 d) 6+

9. I experience muscle tension headaches ____ times per week:
 a) 0-1 b) 2-3 c) 4-5 d) 6+
10. I suffer from skin problems:
 a) never b) rarely c) usually d) always
11. I climb the stairs rather than ride the elevator:
 a) always b) usually c) rarely d) never
12. If possible I would rather walk than ride:
 a) always b) usually c) rarely d) never
13. How many hours per day do you engage in:
- a) relaxation exercises (examples include meditating,
 deep breathing, yoga, totally quiet relaxation,
 biofeedback, autogenic training, etc.) _____
 - b) sleeping _____
 - c) sitting _____
 - d) driving _____
 - e) reading _____
 - f) eating _____
 - g) talking _____
 - h) listening _____
 - i) watching television or movies _____
 - j) active moderate physical work (eg:
 washing the car, housework, employment) _____
 - k) walking:
 slowly _____
 moderately _____
 very quickly _____
 - l) jogging or running _____
 - m) recreation or competitive sports (tennis,
 racketball, swimming, football, etc.) _____
 - n) exercises, calisthenics, aerobics _____
 - o) other _____

DESIRABLE HEIGHT AND WEIGHT CHART*

MEN

Height
(with 1" shoes)

| Ft. | In. | Small Frame | Medium Frame | Large Frame |
|-----|-----|----------------|-----------------|----------------|
| 5 | 2 | 112-120 | 118-129 | 126-141 |
| 5 | 3 | 115-123 | 121-133 | 129-144 |
| 5 | 4 | 118-126 | 124-136 | 132-148 |
| 5 | 5 | 121-129 | 127-139 | 135-152 |
| 5 | 6 | 124-133 | 130-143 | 138-156 |
| 5 | 7 | 128-137 | 134-147 | 142-161 |
| 5 | 8 | 132-141 | 138-152 | 147-166 |
| 5 | 9 | 136-145 | 142-156 | 151-170 |
| 5 | 10 | 140-150 | 146-160 | 155-174 |
| 5 | 11 | 144-154 | 150-165 | 159-179 |
| 6 | 0 | 148-158 | 154-170 | 164-184 |
| 6 | 1 | 152-162 | 158-175 | 168-189 |
| 6 | 2 | 156-167 | 162-180 | 173-194 |
| 6 | 3 | 160-171 | 167-185 | 178-199 |
| 6 | 4 | 164-175 | 172-190 | 184-204 |

WOMEN

Height
(with 2" shoes)

| Ft. | In. | Small Frame | Medium Frame | Large Frame |
|-----|-----|----------------|-----------------|----------------|
| 4 | 10 | 92-98 | 96-107 | 104-119 |
| 4 | 11 | 94-101 | 98-110 | 106-122 |
| 5 | 0 | 96-104 | 101-113 | 109-125 |
| 5 | 1 | 99-107 | 104-116 | 112-128 |
| 5 | 2 | 102-110 | 107-119 | 115-131 |
| 5 | 3 | 105-113 | 110-122 | 118-134 |
| 5 | 4 | 108-116 | 113-126 | 121-138 |
| 5 | 5 | 111-119 | 116-130 | 125-142 |
| 5 | 6 | 114-123 | 120-135 | 129-146 |
| 5 | 7 | 118-127 | 124-139 | 133-150 |
| 5 | 8 | 122-131 | 128-143 | 137-154 |
| 5 | 9 | 126-135 | 132-147 | 141-158 |
| 5 | 10 | 130-140 | 136-151 | 145-163 |
| 5 | 11 | 134-144 | 140-155 | 149-168 |
| 6 | 0 | 138-148 | 144-159 | 153-173 |

* Weight in pounds according to frame, in indoor clothing.
For nude weight, deduct 2 to 4 pounds.

APPENDIX H
RADIO ANNOUNCEMENT

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212 East Point Lane, E-7
East Lansing, MI 48823

March 6, 1981

Ms. Diane Hutchens
Public Service Director
WKAR Radio
310 Auditorium
Michigan State University
East Lansing, MI 48824

Dear Ms. Hutchens:

I am a graduate student in the Department of Counseling and Educational Psychology at Michigan State.

I will be providing free stress management workshops to the East Lansing and MSU community during spring term, 1981 as part of my dissertation research.

Please include the following public service message on your station from March 15 to April 1:

Stress management workshops will be offered to people in the WKAR listening area. The workshop is free of charge. Call Michael Athans at 332-6299 for more details.

I would appreciate repeating the announcement as often as possible. Thank you for your cooperation. If you have any questions, please feel free to contact me at the above number.

Sincerely,

Michael J. Athans

APPENDIX I
NEWSPAPER ANNOUNCEMENT

NEWSPAPER ANNOUNCEMENT

Stress management workshops emphasizing a holistic approach will be offered free of charge to people in the Greater Lansing community. Contact Michael Athans at 332-6299 for details.

APPENDIX J

LETTER OF CONSENT TO PARTICIPATE

STRESS MANAGEMENT WORKSHOP

I understand the nature of this workshop and would like to participate in it. I realize that no beneficial effects are guaranteed. As part of this workshop I will take paper and pencil inventories and will allow for periodic blood pressure readings: I understand this information is for research purposes only and is wholly confidential. Should I decide at any time to no longer participate in this study I may do so.

Name

Date

APPENDIX K
TREATMENT

OUTLINE OF WORKSHOP PRESENTATION

- I. What is Stress?
 - A. According to Traditional Medicine
 - B. The Concept of "Wellness"
 - C. Hans Selye's Definition
 - D. Stress and Heart Disease
 1. Arteriosclerosis
 2. Atherosclerosis
 3. Myocardial Infarction
 4. Blood Pressure
- II. The Psychophysiology of Stress
- III. What are Some Potential Stressors?
 - A. In Small Group Interaction, Discuss:
 1. When does stress occur?
 2. Where?
 3. Why?
 4. With whom?
 5. How did you feel about it?
 6. What can be done to change it?
 - B. Administer the Holmes and Rahe Social Adjustment Scale, then discuss internal and external sources of stress
- IV. Type A Personality and Heart Disease
- V. Psychological Coping and Defending
 - A. The Expression of Emotions as an Outlet
 - B. The Defenses
 - C. Lazarus on Stress, Coping and Defending
 - D. Defense Mechanisms
 - E. Coping Mechanisms

- F. Hinkle on Stress and Coping
- G. The Pearlin and Schooler Study

VI. Self-Help Techniques

- A. Biofeedback
- B. Concentration
- C. Deep Relaxation
- D. Meditation

VII. The Importance of Physical Exercise

VIII. Nutrition

- A. The Importance of a Well-balanced Diet
- B. Proteins
- C. Carbohydrates
- D. Fats
- E. Fiber
- F. Cholesterol and Lippoprotein Levels
- G. Eating Habits
- H. A Well-balanced Diet
- I. The Effects of Alcohol on the Nervous System
- J. The Effects of Caffeine

IX. Summary and Conclusion of the Holistic Approach to Stress Management

I. What is Stress?

Traditional medicine has its foundations in illness. Symptoms are seen as physical and require alleviation through surgery, medication and other physical remedies, with nutrition and psychology not part of the medical model.

Wellness, on the other hand, is a way of life. It is a life-style you design in order to achieve your highest potential for well-being. Wellness is more than just the absence of illness--it is a holistic concept, incorporating the whole person. To maximize well-being, one's physical, emotional, spiritual, and cognitive domains must interact to create mind-body oneness. For wellness, then, you must:

1. Know what your needs are and how to satisfy them.
2. Express your emotions to communicate what you are experiencing to others.
3. Be "attuned" to your body's signals emotionally and physically.
4. Keep your body functioning properly to avoid deficits in particular domains, as this will drain the entire body. Thus, proper nutrition, physical exercise, intellectual stimulation and the expression of emotions are necessary to keep the body in harmony. Time to think and meditate is important.

Hans Selye, a well-known physiologist states that stress is both positive and negative on the human system. Stress is any demand made upon the body, with complete freedom from stress just as detrimental to the body as too much stress.

The physiological consequences of stress on the body may result in high blood pressure, arteriosclerosis, myocardial infarction, atherosclerosis, gastric ulcers, mental illness and other diseases.

Arteriosclerosis is a thickening and hardening of the arterial walls. It is caused by a gradual deposit of calcium on the interior of the arteries.

Atherosclerosis is an advanced type of hardening and is due to the buildup of cholesterol or fatty deposits in the arterial walls. This disease usually affects the aorta, heart, brain, arteries and other blood vessels. The etiology of this most prevalent disorder of mankind is still unknown but is found to be most common in affluent areas of the world, and it becomes more prevalent with age. Robbins and Angell (1976) believe the high prevalence of atherosclerosis found in the United States, England, Australia, New Zealand, and the Scandinavian countries compared to the low figures

in Central and South America and the economically poor populations in Africa and India is due to environmental rather than genetic differences. Not all members of affluent areas of the world and increasing age develop atherosclerosis. In fact, the authors state that within the same town, people 80 years old have less extensive atherosclerosis than those 30 years old. Important predisposing factors for atherosclerosis include:

1. elevated serum lipoproteins
2. increasing blood pressure
3. cigarette smoking
4. elevated blood sugar levels.

Two or more of these risk factors create a larger risk than any one factor; however, the presence of all four risk factors increases the probability of developing coronary heart disease thirteen times of the control population (Kannel, 1974).

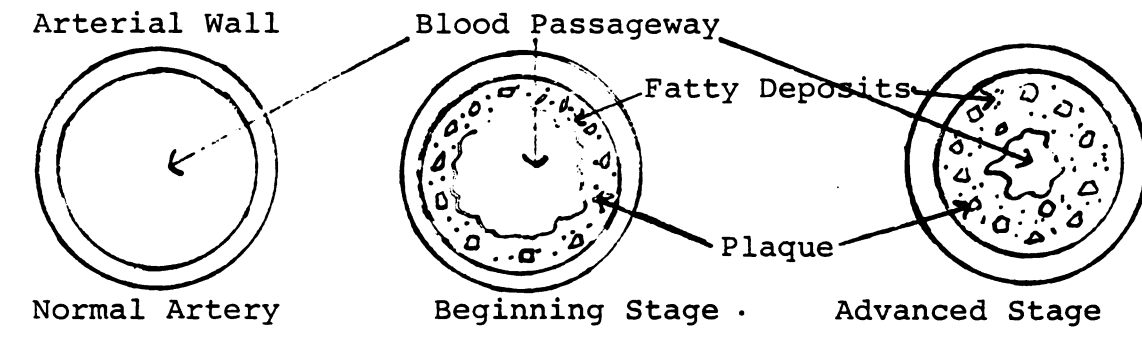
The above predisposing factors appear to be beyond our control in that three of the four are physical and internal, leaving only cigarette smoking as a risk over which we have direct control. In fact, however, lipoproteins, increased blood sugar levels and increasing blood pressure are very much a function of our diet and lifestyles, which we tend to perceive as uncontrollable.

Recent evidence suggests that Type A personality life styles, lack of regular physical exercise, poor diet, stress, (hypertension and smoking) are also predisposing toward heart disease. The research on obesity is conflicting at this point. High intake of saturated fats has also been known to be predisposing toward heart disease; however, there is some controversy over saturated versus unsaturated fat intake.

Myocardial infarction is also a form of heart disease in which 95 percent of the cases suffer from atherosclerosis. One of the causes of this condition is a lesion or obstruction in the arterial wall, eventually producing a heart attack. If there is no occlusion, sudden increases produced by physical or emotional stress may lead to myocardial infarction.

Blood pressure is the force a heart uses to push blood through the arteries. When the heart contracts, the pressure of the blood increases--this is systolic blood pressure. When the heart relaxes between beats, the pressure levels off--This is diastolic pressure. Salt intake, physical and emotional stress are particularly critical to blood pressure.

DEVELOPMENT OF ATHEROSCLEROSIS



II. The Psychophysiology of Stress

A. The Nervous System

1. Central Nervous System (CNS)

A. Brain

1. Forebrain

a. Telencephalon (endbrain)

1. Neocortex

2. Basal Ganglia

3. Limbic System

2. Midbrain

3. Hindbrain

a. Cerebellum

b. Pons

c. Medulla Oblongata

B. Spinal Cord

2. Peripheral Nervous System

A. Somatic

B. Autonomic

1. Sympathetic

2. Parasympathetic

The Central Nervous System is composed of the brain and spinal cord. This includes the "grey matter" and the sensory areas (the cranial nerves) that help us interpret stimuli from our environment. Odors, for example, go through our nose and are interpreted by the brain, and are then categorized into familiar or unfamiliar. This process occurs for taste, touch, and hearing as well.

The Brain Stem Reticular Formation is part of the CNS. The reticular formation extends all the way to the rear of the medulla up into the midbrain and the hypothalamus part of the forebrain. The reticular formation system is important because it is believed to function in governing the activity of the brain through increasing arousal and alertness.

The Peripheral Nervous System contains all the neural tissue outside the CNS. This includes the autonomic system (sympathetic and parasympathetic) and the somatic system.

When we talk about stress, it is the autonomic nervous system which is important, along with the reticular activating system. The autonomic system contains cells and fibers which innervate the internal organs, glands, and smooth muscles. The Sympathetic and Parasympathetic Systems act in opposition to each other. The sympathetic nerves are associated with energy expenditure and emergency reactions. These smooth muscles contract to chemicals, constricting voluntary muscles and activating the endocrine system. The Parasympathetic System of smooth muscles is associated with rest, digestion, and energy conservation. The Sympathetic and Parasympathetic parts of the Autonomic Nervous System are important because when a stressor is perceived by the cortex, the Autonomic system reacts "automatically" by constricting or dilating the sympathetic and parasympathetic systems.

Also in response to stress, glands in the endocrine system are stimulated by hormones which maintain the stress reaction. These glands include the hypothalamus, pituitary, thyroid, adrenals and gonads. Thyroxine and adrenalin maintain the stress reaction by dilating the arteries of the heart, accelerating heart rate, and increasing blood circulation. Because extra blood is needed for the heart, blood flow is minimized to the hands and feet, leaving blood in the trunk and head, where it is most needed. The result is cold hands and feet, and sweat production induced by the sympathetic systems.

It is the muscle tension that one feels when stressed. Although the tension may not be felt directly, it leaves the body drained at the end of a day. Over a period of time this will have degenerative effects.

The Autonomic System is important to us because it is one of the few parts of the body over which we have direct control. Meditation, biofeedback, and other self-help techniques are methods of directly reducing muscle tension and hormones released in the body. This workshop will focus on these techniques along with proper nutrition, physical exercise, and an understanding of the coping and defense styles we use.

III. What are Some Potential Stressors?

A. In small group interaction, discuss:

1. When does stress occur?
2. Where?
3. Why?
4. With whom?
5. How did you feel about it?
6. What can be done to change it?
7. Are you more stressful at home or at work?
8. How do you typically resolve these situations?
Are they recurring?
9. Is the stress perceived as internal or external?

B. Administer the Holmes and Rahe Social Adjustment Scale.

1. Review external factors--how much control of them do we have?
2. What about internal stress--how much control do we have?
3. Introduce coping and defending styles in reference to the expression of emotions.

THE HOLMES AND RAHE SOCIAL READJUSTMENT RATING SCALE

| EVENT | VALUE |
|---------------------------------------|-------|
| Death of a spouse | 100 |
| Divorce | 73 |
| Marital separation | 65 |
| Jail term | 63 |
| Death of a close family member | 63 |
| Personal injury or illness | 53 |
| Marriage | 50 |
| Fired from work | 47 |
| Marital reconciliation | 45 |
| Retirement | 45 |
| Change in family member's health | 44 |
| Pregnancy | 40 |
| Sex difficulties | 39 |
| Addition to family | 39 |
| Business readjustment | 39 |
| Change in financial status | 38 |
| Death of a close friend | 37 |
| Change to a different line of work | 36 |
| Change in number of marital arguments | 35 |
| Mortgage or loan over \$10,000 | 31 |
| Foreclosure of mortgage or loan | 30 |
| Change in work responsibilities | 29 |
| Son or daughter leaving home | 29 |
| Trouble with in-laws | 29 |
| Outstanding personal achievement | 28 |
| Spouse begins or stops work | 26 |
| Starting or finishing school | 26 |
| Change in living conditions | 25 |
| Revision of personal habits | 24 |
| Trouble with boss | 23 |
| Change in work hours, conditions | 20 |
| Change in residence | 20 |
| Change in schools | 20 |
| Change in recreational habits | 19 |
| Change in church activities | 19 |
| Change in social activities | 18 |
| Mortgage or loan under \$10,000 | 17 |
| Change in sleeping habits | 16 |
| Change in # of family gatherings | 15 |
| Change in eating habits | 15 |
| Vacation | 13 |
| Christmas season | 12 |
| Minor violation of the law | 11 |

IV. Type "A" Personality

The term "Type A Personality" was coined by Friedman and Rosenman in a study of heart disease. Type A Personality behavioral patterns are precursors to chronic heart disease. They include such personality attributes as hard driving, aggressive striving for achievement, competitiveness, impatience, restlessness, a continual state of alertness and consistently hurried activity. In this study, those subjects rated through structured interviews to be Type A at the onset of the study had twice the rate of coronary heart disease, were five times as likely to have a second myocardial infarction and had twice the rate of fatal heart attacks as compared to Type B (absence of Type A behavioral patterns). This amount of risk is approximately equal to that produced by elevated blood pressure, cholesterol, or cigarette smoking.

Signs of the Type A personality include:

1. thinking of or doing more than two things at once;
2. scheduling more activities into less time;
3. failure to notice or be interested in your environment or things of beauty;
4. hurrying the speech of others;
5. becoming irritated when forced to wait in line or when driving behind a car you think is moving too slowly;
6. believing if you want something done well, you have to do it yourself;
7. having difficulty sitting and doing nothing;
8. playing nearly every game to win, even when playing with children;
9. measuring success by numbers (quantity vs. quality).

Suggestions for changing Type A behavior begin with an observation of behaviors with the related feelings. See "Suggestions for Changing Type A Behavior."

SUGGESTIONS FOR CHANGING TYPE A BEHAVIOR*

1. Recognize "hurry sickness." If recognized you will be better prepared to alter it.
2. Endurance. Remember changing a habit takes time.
3. Each morning, noon and mid-afternoon remind yourself that life is always an "unfinishedness."
4. Begin in your vocational hours to listen quietly to the conversation of others. Expose yourself to slow down maneuvers and tactics.
5. Quit trying to think of more than one thing at a time.
6. If you see someone else doing a job slower than you know you can do it, don't interfere with him unless you are positive he can't do the job at all.
7. Never forget when confronted by a task to ask yourself the following:
 - a. Will this matter have importance five years from now?
 - b. Must I do this right now or do I have enough time to think about the best way to accomplish it?
8. Make it a habit to ask yourself before you begin to speak:
 - a. Do I really have anything important to say?
 - b. Does anyone want to hear it?
 - c. Is this the time to say it?
9. Tell yourself at least once a day that no enterprise ever failed because it was executed too slowly, too well.
(Remember, haste makes waste.)
10. Shy away from deadlines at definite times if possible
(Nightly arrival at home should be elastic).
11. Carry reading materials with you so if you have to wait
(at the airport, barber shop, etc.) you won't fret.
12. Remember to protect your own allotment of time; no one else will.
13. Resist from projecting your own sense of time urgency upon those with whom you come in contact.
14. Purposely, with a companion, frequent restaurants and theaters where there will be a period of waiting, concentrate on conversation instead of impatience at having to wait.

15. When you are following a car whose speed seems too slow, penalize yourself by not passing it even when you are able to do so.
16. Attempt to read books that demand not only your entire attention, but also a certain amount of patience.
17. Learn to interrupt long session of any activity that you know or suspect may induce tension and stress. Take a break before continuing. This will break the interior tension.
18. Begin to speak your thanks or appreciation to others when they have performed services for you.
19. Begin to smile at as many persons as often as you can.
20. Concentrate on making your own character one of worth.
21. Drill yourself in improving your speech, expanding your vocabulary. Learn more words, expand your mind and thinking processes.
22. Drill yourself in the art of holding opinions loosely. Don't become angry when others vary.
23. Refrain from saying "I told you so." It tends to arouse hostility in other people.
24. Continue to seek some "loneliness" for yourself. Use it to acquire the things worth being.
25. Find time to consolidate a few friendships into firm and spiritually rewarding intimacies. Remember living things provide joy.
26. Allocate time for reading, pursuing interests, visiting museums, galleries and theaters. Take time to recall the past.
27. Finally, persist in drilling yourself in these exercises. Remember success is the ability to survive failure. Forming new habits takes time.

*Adapted from "Type A Behavior and Your Heart" by
Meijer Friedman, M.D. and Ray H. Rosenman, M.D.

V. Psychological Coping and Defending

A. The Expression of Emotions as an Outlet

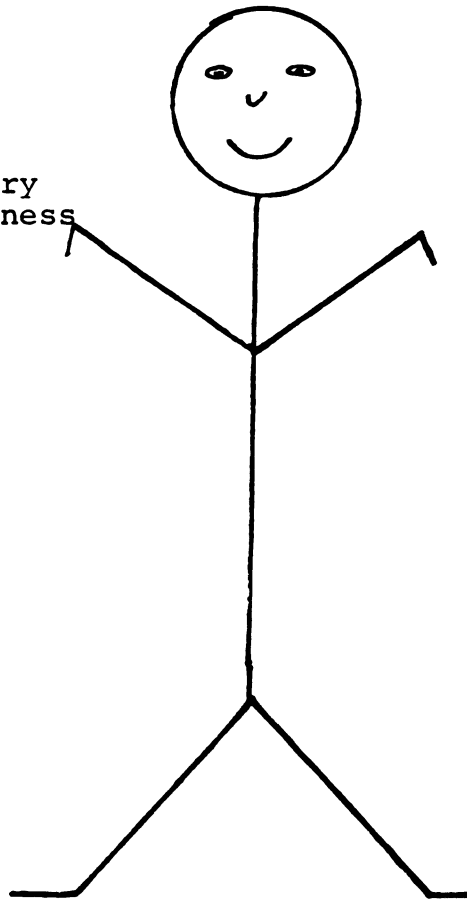
Perceive - feel

INPUT:

Senses
sight
smell
touch
taste
hear

Food
Water
Oxygen

Sensory
Awareness



OUTPUT:

Talk (communication skills)

Exhibit Behaviors
tight control of emotions
appropriate control
loose control

Sweat

Eliminate

Input consists of all that we may possibly take into our body. This, of course, includes food, water, and oxygen, but we also take much in via the senses, by hearing, seeing, touching, and tasting the environment. Our perceptions are a cognitive awareness, i.e., that which we do to better understand our environment. This perceiving is transformed chemically to induce our feeling states.

The output part of the total system includes talking, sweating and eliminating, but also use of affect in behavioral modes after processing in the cognitive domain. Our perceptual awareness determines the level of affect which can be expressed in the environment. For many, this means being hyperactive or withdrawn, anxious or depressed. It is our defensive posture which determines the expression of

emotions and ultimately how much psychological stress is maintained in the body, thereby creating physiological tension which may be released inappropriately by a sudden blast of anger.

A great deal of energy is expended in attempting to control emotions. Too much control is defensive behavior, keeping us on guard and requiring constant attention emotionally and physically. Spending energy to negate or deny emotional feelings is draining and stressful, the end result possibly being a number of physical and emotional symptoms including ulcers, asthma, obesity, headaches, depression, heart disease, and possibly cancer. When emotions are suppressed cognitively the body has no choice but to find outlets for their expression through physical symptoms.

Too little control over emotions also expends energy through temper tantrums and acting out. These emotions can be expressed more efficiently and appropriately, with less stress on the system. Communication is important, then, in expressing one's feelings, as psychological games require more energy to maintain neurotic lifestyles. An example of this is Passive-Aggressive type behaviors.

B. The Defenses

Freud, as early as 1911, recognized that people responded to threat by defending against it, in order to protect the sphere of the ego. His theory on ego functioning and the use of defenses has since been expanded upon by Anna Freud (1936) and many others. Freud used the term "conscious" and "ego" interchangeably. The ego develops as the organism changes from primary process, which is the infant's need for immediate gratification, to secondary process, where thought, perception, memory, language and delay are incorporated into the structures of the young child through the normal process of growth and maturation. The ego, in incorporating these functions, acts to mediate the perception and comprehension of external and internal stimuli. It responds to anxiety and conflict by employing counter-cathetic energy to keep these stressful stimuli out of consciousness through the use of defenses. The ego, then, can be seen as a mediator of the external world and its demands, and its internal frame of reference. Defenses are used in this capacity to lessen the discrepancy between these two realities.

Conflict, anxiety, and their defenses are often resolved through repression, but may reproduce the stress in the disguised form of a symptom. Continued use of defenses suggests a stressed state in the individual with psychosomatic illness or conversion reactions possible long-term side effects.

C. Lazarus on Stress, Coping and Defending

Psychological stress is the result of cognitive appraisal of threat to the system. The threat must be anticipated or future oriented as a result of the processes of perception, learning, memory, judgment and thought. The appraisal is thus more than just a perception--it includes an inference from the environment.

Coping is a response to the above threat. It is defined as any response to external life stressors that seems to prevent, avoid, or control emotional distress. This is what people do with stress.

Defending is a part of the coping process in which the individual psychologically deceives himself about the condition of the threat. Defenses act to distort the threatening experience so they are less dangerous to the individual.

D. Psychological Defense Mechanisms

Acting Out--Directly expressing an unconscious wish or impulse to avoid being conscious of the feeling involved. It is impulsive to avoid the tension involved.

Controlling--Excessively attempting to manage or regulate events in the environment to minimize anxiety.

Denial--Seeing or hearing a reality but refusing to accept it.

Distortion--Grossly reshaping external reality to suit inner needs.

Dissociation--Temporary but drastic modification of personal identity to avoid emotional distress.

Hypochondriasis--Complaints about body pain and somatic symptoms which are exaggerated or nonexistent.

Introjection--Internalizing the characteristics of someone with the goal of establishing closeness and constant presence of the person.

Intellectualization--Control of affect and impulses by thinking of them instead of experiencing them, to control anxiety.

Isolation--Separating affect from content, thereby repressing the affect.

Passive-Aggressive Behavior--Indirectly and passively being aggressive toward someone.

Projection--Placing your own attitudes and feelings on someone else.

Rationalization--Justifying attitudes, beliefs, or behavior that may otherwise be unacceptable by an incorrect application of justifying reasons or the invention of a convincing fallacy.

Reaction Formation--Management of unacceptable impulses by permitting expression of the impulse in antithetical form.

Repression--Making an idea or feeling which was once conscious awareness into unconsciousness so it is not remembered.

Regression--Returning to an earlier stage of development to avoid the anxiety of a present stage.

E. Mature Defenses--Coping Styles

Altruism--Vicarious but constructive and instinctually gratifying service to others.

Anticipation--Planning for future inner discomfort.

Concentration--Ability to think and retain information about an event or feeling for a period of time.

Empathy--Acceptance and understanding about how another person feels.

Humor--Expressing feelings without personal discomfort and without unpleasant effect on others. Humor allows one to bear and yet focus on what is too terrible to be borne.

Logical Analysis--Common sense deductions about behaviors and events.

Tolerance of Ambiguity--The ability to deal with complex or uncertain situations that do not easily yield to understanding or control.

Sublimation--Gratifying a socially objectional impulse by retaining the goal but transferring the event to one more socially valued.

Substitution--A mature action of substituting or changing one behavior or event for another.

Suppression--A conscious or semiconscious decision to postpone attention to a conscious impulse or conflict.

F. Hinkle (1974)

Hinkle analyzed the personality factors distinguishing people who were rarely ill from those with frequent illness. He suggests that those who remain healthy show a lack of concern for other people and life goals, and lack of involvement in life affairs. These individuals appear to be using their defenses to protect themselves from threatening life experiences.

Empirical evidence supports the proposition that increases in defensive behavior are inversely related to threat and stress reactions (Fenz and Epstein, 1962). Lazarus and others (1962) showed that when denial and intellectualization were used defensively, subjects showed lower levels of stress response, including autonomic levels of arousal. This data supports the contention that the way a person appraises and copes with an environmental stressor has an important bearing on the emotional and adaptational outcome and further indicates that defensive functioning is successful in a variety of stressful situations. For example, a seriously ill patient who denies or ignores a diagnosis and is not willing to accept the possibility of death, may fare better psychologically and physically than one who accepts and succumbs (Gentry, Foster and Harvey, 1972). Friedman et al. suggest that levels of hormonal secretion seemed to be dependent on the success of the defensive coping activity.

This data, along with psychoanalytic theory, suggests that during periods of acute trauma on the psyche, people protect themselves from the threat by using their defenses. Although this response may help alleviate the immediate trauma, continued defended responses to life's situations will result in emotional and physical depletion, with the end result possible psychosomatic illness such as headaches, ulcers, heart disease, or hysterical conversion reactions. Thus, in the long run, acknowledging life's stresses and dealing with them through appropriate coping responses outweighs the short-term defensive maneuvers.

G. The Pearlin and Schooler (1978) Study on Coping:

The authors gathered information about coping responses and psychological attitudes through scheduled interviews with a sample of 2300 representative of the Chicago area census. People were asked about conflicts and frustrations, what coping responses they employed to deal with the stressors, and what emotional stress they felt. Themes were broken down into these major areas: three had to do with marriage, three involved parenting, and four involved occupations. The authors identified three coping responses as being relevant:

1. Changing the stressful situation acts to eliminate the cause of stress. This response was used infrequently, perhaps because the situation was not recognized as a problem, or because people lacked the ability or knowledge to change environmental circumstances.

2. A coping response which does not succeed in changing the situation is altering the meaning of the problem by rationalization, or substitution of other rewards, ignoring it, etc.

3. Managing stress attitudinally. "Time will change things," "Things will work out for the best," etc.

The authors found that occupationally the most effective way of coping was to manipulate goals and values. People unable to control stress in occupations will devalue the importance of their work, with the end result being psychological withdrawal.

In marriage and parenting, mastery and positive self-esteem were important means of coping. What one does is important.

Handouts for this section:

- A. "Can your Emotions Kill You?" Psychology Today, Nov 77, G. Engel.

- B. Coping and defending mechanisms.

(Note: Subjects participated in a
VI. Self-Help Techniques 45-minute relaxation technique.)

A. Biofeedback is western technology's way of measuring the autonomic changes in the body. Eastern philosophies and ways of life have for years used meditation as a way to relax and center themselves. Biofeedback is a way of measuring these changes which take place by measuring EEG--brain wave activity and muscle tension in the forehead, temperature fluctuations, etc. Biofeedback is a feedback loop, which means that once the brain waves, muscle tension, or temperature are transmitted visually or auditorily, we have some control over the system, thereby producing a feedback loop.

B. Concentration--similar to a form of meditation, where one develops concentration on a thought or word, thereby allowing other anxieties to approach consciousness during this focusing technique.

C. Deep Relaxation--often visualization: "imagine a blue cloud slowly moving through each part of your body." Focus on each muscle group, tensing and relaxing.

D. Meditation--in a recent study, subjects were matched with themselves on several variables. X_1 was rest, X_2 meditation (TM). Results: within 5-10 minutes of the onset of meditation, oxygen consumption decreased 17%; CO_2 elimination, 12%; cardiac output decrease 25%; EEG increased² in slow alpha waves by 9 cps; skin resistance increased 500%.

The changes in heart rate, blood pressure, and skin resistance all suggest that there are specific changes within the functioning of the autonomic nervous system. The EEG patterns seen during meditation distinguish sleep from dreaming. This is a different state of consciousness in which one is alert by relaxed.

How to meditate:

1. a comfortable sitting position with straight spine is recommended;
2. pick two quiet times per day, for 20 minutes each;
3. focus your attention on one object, word, idea, etc.--the word "one" or "om" is easy to remember. Continue to repeat the word--you will at times lose its focus, then regain it, as other stressful events come to the surface of consciousness.

Results of the above techniques:

1. calming the body, with a sense of serenity;
2. heightened awareness;
3. better health--physical and emotional;
4. less of a need for alcohol, drugs, etc.;
5. lowered blood pressure, brain will show an increase in alpha waves.

VII. The Importance of Physical Exercise

All exercise serves to:

- Control blood circulation
- Prevent heart disease
- Keep your bones from weakening
- Maintain your weight at a proper level
- Burn off fat
- Suppress appetite
- Reduce anxiety and depression
- Increase general fitness
- Lengthen blood clotting time, preventing spontaneous blood clotting
- Lower blood pressure
- Make arteries more elastic
- Increase oxygen in blood
- Enable heart to pump blood with less effort
- Foster less physical and emotional tiredness

Physical exercise should stress the cardio-vascular system 4-5 times per week, for not less than 15 minutes. Stretching exercises for 5 minutes prior are important to tone muscles (see list of stretches). It is also important to cool down afterward. If you still find yourself short of breath 10 minutes after your exercise, it is too strenuous.

Aerobics are a group of exercises that increase the heart and breath rates for a sustained period of time, greatly increasing the flow of oxygen and blood to all parts of the body. Examples of aerobics include: bicycling, running, jogging, swimming, jumping rope, walking quickly, etc. Golf, downhill skiing, gardening and housework are not strenuous enough to stress the heart and cardio-vascular system.

Note: Subjects participated in 45 minutes of aerobics by a trained instructor.

Handouts for this section:

A. "Everyday Stretches to Free Body and Mind," Medical Self-Care, Fall 1980. J. Palidone.

B. "Bicycling, Cholesterol and Your Heart," Health and Fitness, March 1980. E. Gaston.

STRETCHES

1. Neck stretch
2. Groin stretch
3. Back stretch (on toes)
4. Head to knee stretch
5. Forward split
6. Hop on toes
7. Standing stretch (upper body--side)
8. Standing stretch (legs and hips)
9. Crossed legs stretch
10. Chest stretch
11. Jumping jacks
12. Quadriceps stretch
13. Sit backs and leg lifts

VIII. Nutrition

Sources of nutrition include protein, carbohydrates (simple and complex), fat, fiber, water and minerals.

A. Protein is important in providing body-building amino acids, which provide a role in growth, metabolism, and maintenance of body tissue. Protein can be derived from grains, roots, vegetables and fruits in their unrefined form, as well as meat, fish, eggs, milk. Dr. Pritikin feels that most Americans get too much protein and do not properly balance their amino acid content.

B. Fats constitute almost half the total caloric diet for most Americans. It is found in butter, margarine, shortening, cooking and salad oils, peanuts, dairy products, eggs, meats, nuts, seeds. Advantages: coats nerve endings, provides us with shiny hair and skin. Disadvantages: fats cause three kinds of damage--1) suffocates tissues by depriving them of oxygen, 2) raises the level of cholesterol and uric acid in tissues, contributing to atherosclerosis and gout, 3) impedes carbohydrate metabolism and fosters diabetes. All fats (animal, vegetable, saturated and unsaturated) form a fatty film around the red blood cells and platelets, causing them to stick together. This clumping means that 5-20 percent of your blood circulation shuts down.

Too much fat is in foods which are fried in butter or margarine. Butter is constantly added to food to enhance flavor. On a diet of grains, vegetables, and fruits, you would still take in 5-10 percent of your total calories in fat.

Animal fats are the fatty acids. This is saturated fat, and raises the cholesterol level in the blood. There is no cholesterol in grains, fruits and vegetables.

Vegetable fats are mostly unsaturated fatty acids. There are unsaturated fats in corn, safflower, soybeans, etc.

Butter/margarine: Hydrogen bonds are added to make margarine solid at room temperature, thereby making it unsaturated or hydronated. Emulsifiers, stabilizers, bleaching agents, and preservatives are also added. Butter has few if any additives but is saturated. The caloric intake is the same--100 calories per tablespoon.

C. Carbohydrates: 1. Simple carbohydrates are refined. These include sugar, unbleached white flour, and alcohol. Sugar is added to many foods--vitamins, canned and frozen vegetables, fruits, yogurt, bread and canned soups, etc. Sugar has no nutritional value, as it is highly refined. Most Americans eat about 2 pounds of sugar per week, which is one-quarter of their total calories. Three-fourths of the sugar we eat comes from frozen processed foods, with only one-quarter eaten as

table sugar. Evidence shows strong correlations between diets high in refined carbohydrates and several American health problems--dental disease, obesity, blood sugar problems and heart disease. Less than 10 percent of your diet should consist of simple carbohydrates. 2. Complex carbohydrates occur naturally in grains, fruits and vegetables. They are important for feeding the brain.

D. Fiber comes from the structural and stabilizing part of plants. Fiber is particularly important in the process of elimination and also seems to help prevent rectal colon cancers. The typical American diet does not get enough fiber. Fiber can be found in complex carbohydrates, especially when eaten raw or slightly steamed. Also found in wheat bran (there isn't enough in bread).

Measures of Fatty Deposits in the Blood

A. Cholesterol: This is a sterol, which is like a fat in that it does not dissolve easily in water or blood plasma. All cells manufacture and contain cholesterol. It helps make the acids for digestion and steroid hormones such as progesterone and adrenal gyucocorticoids. When too much cholesterol gets into the blood, it settles into the arterial walls, hardening and narrowing them.

Atherosclerosis begins with a fatty yellow streak on the inner lining of the arteries, with growing deposits of fibrous material rich in fatty cholesterol (arterial plaque). With plaque build-up, the flow of the blood slows down. The vessel will close up and the artery will die as an end result. When part of the heart begins to die from want of food and oxygen, a myocardial infarction occurs. A stroke occurs when a section of the brain is similarly starved. Cholesterol foods are prime factors in coronary heart disease in that they contribute to high blood cholesterol levels. A change in diet will change these levels. Foods rich in cholesterol are from animal sources. There is no cholesterol in grains, fruits and vegetables.

Most Americans eat about 800 ml. cholesterol per day. Pritikin advocates only 100 ml. Foods to avoid for cholesterol include: shrimp, caviar, organ meats, eggs. Pritikin recommends lean meats, poultry and fish limited to 1½ pounds per week. His diet is 10 percent protein, 10 percent fat, and 80 percent complex carbohydrates.

Blood cholesterol levels should be 100 plus your age, according to Dr. Pritikin. Americans tend to range from 150 to 330, yet this is abnormally high considering other cultures and the health hazards associated with high cholesterol. Any level over 165 can be atherogenic--it will encourage the growth of plaque in the arteries.

B. Lipoproteins: Lipoproteins carry cholesterol through the blood. High density lipoproteins act to clear out redundant cholesterol from the body's tissues and return it to the liver for excretion. People are born with an equal amount of high and low density lipoproteins. Low density lipoproteins invade the arterial wall and initiate plaque formation.

C. Triglycerides: A compound containing three fatty acids. It is formed from carbohydrates and is stored in fat cells. When broken down, triglycerides release free fatty acids into the blood.

Highest Nutritional Values

1. Choose fresh foods first, then frozen. Even frozen foods lose nutritional value while waiting to be thawed or initially frozen. Also, important enzymes are lost in the freeze. Canned foods should be used minimally due to added sugar, salt, preservatives and other chemicals used for processing and storing.

2. Breads/cereals should be chosen from whole grains. These contain important B vitamins, protein and fiber. Refined flour has few if any nutrients. "Enriched" means that vitamins are sprayed on, after the hull is removed. The hull has the most nutrients to begin with, including fiber. "Whole wheat," "rye," etc. is whole grain.

3. The more foods are prepared and processed, the more nutrients are lost and the more additives are used in their preparation.

4. Read labels. They list ingredients starting with the largest amount first. Think of a soft drink as carbonated water, sugar, artificial flavors and colors, caffeine, stannous chloride, and high in calories. Look at the amount of protein, carbohydrates and fats.

5. Natural sweetener means sugar.

A Well-Balanced Diet

Eat two kinds of whole grains daily, e.g. wheat, oats, barley, brown rice, or buckwheat.

Eat some raw vegetables daily, e.g. green or yellow vegetables. Next best to raw, steam lightly.

Have a fresh fruit daily, including at least one citrus fruit.

Low fat, low cholesterol animal protein should be used. Pritikin suggests a total of 6 ounces per week, and not more than 1½ pounds.

Avoid oil fats, sugar, honey, sweeteners, and processed foods.

Eating Habits

Do you eat leisurely? sitting down? Educate yourself on foods and nutritional values? Get a balance of many foods?

Low-fat natural cheeses:

| | |
|--------------------------|-----------|
| 1% lowfat cottage cheese | Edam |
| Farmers cheese | Pre Monde |
| Ricotta, if skim | Jarlsburg |
| Mozarella | Parmesan |

Lean meats:

| | |
|-------------|--------------|
| Veal | Sirloin beef |
| Leg of lamb | Liver |

Low-fat fish

| | |
|-------------|-------------|
| Cod | Halibut |
| Ocean perch | Red Snapper |
| Flounder | Sea Bass |
| Haddock | Sole |

The Effects of Alcohol

Alcohol causes the blood platelets to stick together reducing red blood cell oxygen carrying capacity and blood supply to the heart.

It affects brain cells and functioning.

Liver becomes filled with fats.

Depresses your immune system.

The Effects of Caffeine

Caffeine stimulates the CNS and brain. It produces rapid heart beats, insomnia, high free-fatty acids in the blood, increases gastric secretion, and causes high blood pressure. Coffee has 90 to 120 mg caffeine per 5 ounces, cola about 40, a chocolate bar 25. A seven-year-old boy weighing 60 pounds drinking three cokes per day is drinking the equivalent of a 175-pound man drinking eight cups of coffee.

Note: Subjects were asked to bring three food products from their pantry, and labels were read and discussed.

Handouts for this section:

- A. key nutrients
- B. "How to Read Label Claims, Nutrition Action, Oct 81, S. Turner and G. Moyer.
- C. "Caffeine: What it Does", Consumer Reports, Oct 81.
- D. Ratings of breakfast cereals, Consumer Reports.
- E. Several of Claiborne's low-salt gourmet recipes from the New York Times.

STRESS MANAGEMENT WORKSHOP

Recommended Reading

The articles and handouts have been specifically chosen to correspond with the workshop and its holistic nature. Below are additional readings for the curious or intensive reader. All books are paperbacks and are available in local bookstores.

Albrecht, Karl. (Foreword by Hans Selye). Stress and the Manager: Making it Work for You. New Jersey: Prentice-Hall, Inc. 1979.

Anderson, Bob. Stretching. Westminster, MD: Shelter Publications (Random House), 1980.

Everroad, Jim. 5 Minute Total Shape-Up Program. Los Angeles: Price, Stern, Sloan Publishers, 1980.

Friedman, M. and Rosenman, R. Type A Behavior and Your Heart. New York: Alfred A. Knopf, 1974.

Forbes, Rosalind. Life Stress. Garden City, New York: Doubleday and Co., Inc., 1979.

Girdano, Daniel and Everly, George. Controlling Stress and Tension: A Holistic Approach. New Jersey: Prentice-Hall, Inc., 1979.

Nutrition Search, Inc. Nutrition Almanac. New York: McGraw-Hill Book Co., 1980.

Pelletier, Kenneth. Mind as Healer, Mind as Slayer. New York: Dell Publishing Co., Inc., 1977.

Pritikin, Nathan. The Pritikin Program for Diet and Exercise. New York: Bantam Books, 1980.

Selye, Hans. Stress Without Distress. New York: Signet Books, 1974.

Spino, Dyveke. New Age Training for Fitness and Health. New York: Grove Press, 1979.

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