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THE RELATIONSHIP BETWEEN STRESS, ILLNESS AND JOB
SATISFACTION IN SCHOOL COUNSELORS IN THE STATE OF MICHIGAN

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THE RELATIONSHIP BETWEEN STRESS, ILLNESS AND
JOB SATISFACTION IN SCHOOL COUNSFLOORS
IN THE STATE OF MICHIGAN

By

Beverly Ann Parker

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ABSTRACT

THE RELATIONSHIP BETWEEN STRESS, ILLNESS AND JOB SATISFACTION IN SCHOOL COUNSELORS IN THE STATE OF MICHIGAN

By

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The major purposes of this study were four fold:

(1) to examine the relationship between stress and job satisfaction in school counselors in Michigan; (2) to examine the relationship between stress and illness in school counselors in Michigan; (3) to examine the relationship between job satisfaction and illness in school counselors in Michigan; and (4) to measure the impact of stress and job satisfaction on the occurrence of illness in Michigan school counselors.

Of secondary interest were questions related to the study. The questions aimed to determine if significant differences existed between stress, illness or job satisfaction and the demographic variables of age, marital status, sex, ethnic background, number of children, income level, level of education, school level, school affiliation, occupation, size of school system and time in the job.

For this study, the general population consisted of persons who were employed as school counselors in the state of Michigan. A subset of this population served as the population of immediate interest. This subset included the

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754 members of the Michigan School Counselors Association (MSCA) who were employed in a counseling capacity during the 1977-78 school year.

Two instruments were used in this study to provide the necessary data. To measure stress and illness, an instrument was developed during the course of this study. It contained demographic information, stress, stress-linked behavior and illness scales. To measure job satisfaction, the Job Description Index (JDI), developed by Smith, et. al., was used. This instrument contains five scales of job satisfaction: work, pay, promotion, supervision and people. The instruments, along with a cover of support from the president of MSCA, were mailed to each of the persons on the MSCA membership list. The sample consisted of the 427 school counselors who responded to the questionnaire.

The analysis of data included the use of the Pearson product-moment correlation coefficient for testing of the first three hypothesis and a two-way analysis of variance (ANOVA) for the fourth hypothesis. Each hypothesis was tested for significance at the .05 critical level. In addition, one-way ANOVA techniques and descriptive statistics were used to provide answers to questions related to the study. The ANOVA techniques tested for significant differences between the demographic variables and the major variables of the study. Again, the .05 level of significance was used to analyze the results of the ANOVA procedures.

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For the relationships that indicated a significant difference, the Scheffe post hoc comparison technique was conducted to localize the area of significance.

The results of this study can be summarized in the following manner:

1. The level of stress in school counselors was negatively related to their level of job satisfaction.
2. The level of stress in school counselors was positively related to the occurrence of illnesses.
3. The occurrence of illnesses in school counselors was negatively related to the level of job satisfaction.
4. There was not a significant interaction between stress, job satisfaction and illness such that school counselors who were less satisfied and under stress experienced more illnesses than those counselors who were more satisfied and under less stress.
5. There was a significant difference between stress and marital status of school counselors such that single counselors experienced more stress than married counselors.
6. There was a significant difference between stress and number of children such that counselors

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with more children experienced less stress than counselor with fewer or no children.

7. There was a significant difference between job satisfaction and marital status such that school counselors who were separated or divorced were less satisfied in their jobs than counselors who were widowed.
8. The area of supervision was highest of the five areas of job satisfaction.
9. The area of promotion was lowest of the five areas of job satisfaction.
10. Too much paperwork was the greatest source of stress for counselors in their jobs.
11. Quality of physical facilities was the least source of stress for counselors in their jobs.
12. The use of consulting services was greatest for stress-linked behaviors engaged in by counselors.
13. The second half of the school year was more stressful for school counselors than was the first half.

The importance of this study adds support to the necessity of school counseling departments to address the events which significantly affect the effective and efficient performance of persons who work therein.

DEDICATION

To my parents, Leroy and Odessa Parker

whose love, understanding, constant support and encouragement
made it all possible.

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The completion of this project was made possible through the constant support and collaboration of many friends and colleagues too numerous to name. But, I would like to express my sincere thanks to those whose contributions are foremost in thought.

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CHAPTER I

INTRODUCTION

A steadily growing number of Americans are being affected by more and more illnesses despite the fact that medical researchers have virtually eliminated most of the infectious diseases which plagued the 19th and early 20th centuries. Diseases such as tuberculosis, pneumonia and diphtheria are no longer listed as the most prominent killing diseases, but have been replaced by others such as heart attacks, strokes, cancer and kidney failure. This new category of diseases has indications of a runaway condition of normal body physiological functions, namely stress. Chronic stress has been implicated as causes of various diseases, as complicating others and inducing discomfort and misery in persons who suffer from it. Conflict, crowding, factors in personal lives, rapidly changing life styles and pressures of working for a living are inducing stress in people at levels that threaten physical health and mental well-being. Albrecht (1979) listed five significant areas of change which he feels constitute the twentieth century as the "Age of Stress." They include changes from rural living to urban living, from stationary to mobile, from self-sufficiency to consuming, from isolation to interconnections and from

physically active to sedentary. He further stated that these changes place pressures and demands for adaptation on the 1970's man that were unknown to the 1900 man.

The presence of stressful stimuli, be it physical or mental, internal or external, noxious or beneficial, creates a series of chemical bodily reactions which have been indicated as causative factors in most contemporary health breakdowns. The list of diseases continues to grow, with heart disease heading the list in frequency of annual deaths. It is now estimated that one American dies every 32 seconds, either immediately or within a few hours after a heart attack. Men are more prone to heart attacks than women, and one out of every three victims is younger than 65 years old.

Strokes and cancer compete for the number two place as the most frequent cause of death among Americans. The same stressful stimuli that give rise to heart attacks give rise to strokes which afflict over 300,000 people annually.

Cancer is believed to have a stress-derived component which makes up a cancer personality. Medical researchers contend they have identified a series of attitudes and behaviors which coincide more highly than others with the incidence of cancer. This personality type is said to be more susceptible to the disease than any other personality.

Stress has many forms, some obvious, others not so obvious. A partial list may include hunger, thirst, heat,

cold, insecurity, social change, conflict, fear, grief, exertion, fatigue (mental and physical), anxiety, frustration, menopause, depression, overdominant parents or spouse, job dissatisfaction and resentment. No matter what form stress manifests itself, it causes a pattern of reactions which are basically dependent upon the individual's conscious and unconscious assessment of the situation. If the stress becomes acute, it can actually kill a person, especially if the individual's condition is coupled with bouts of prolonged stress, age or circulatory disease. In a study of persons who were reported as victims of sudden deaths, Engel (1977) identified four categories of sudden stress. They are:

1. A traumatic disruption of a relationship with a loved one or of the anniversary of such a happening.
2. A situation of danger, struggle or attack.
3. Extreme sense of failure, defeat, disappointment, humiliation and loss of self-esteem.
4. A sudden moment of triumph, public recognition, or reunion with loved ones. (Engel, 1977, p. 114)

It is Engel's contention that the subjects in his study died of sudden stress overload which their bodies could not handle.

The list of ways in which stress affects an individual's behavior is as long as the list of stress forms. This list includes use of marijuana, amphetamines, sleeping pills, drugs, smoking, overeating, drinking alcohol, coffee or high caffeine drinks, psychological

withdrawal, ill-temper, sleeplessness and absenteeism from work. More severe cases manifest themselves with criminal involvement and suicide.

Stress is a significant factor in today's world. It has revealed itself in all aspects of one's life. This is no less true in the work world. Persons within the work force are becoming increasingly concerned about their employees who continually exhibit many of the above behaviors. Human resources are oftentimes the most expensive form of resources for any business. Employee problems such as high absenteeism, job turnovers, health problems, alcohol and drug abuse and personality clashes cost the employer money and performance. These problems arise in stress. They can add to the cost of any business and disparage the quality of workers' performance.

Colligan, Smith and Hurrell (1977) feel that work organizations are paying a much higher cost for occupational stress than they are aware with high occurrences of health problems, emotional disorders and absenteeism. In a study of 130 job classifications, they identified 40 jobs as being high-stress. Ten of the 40 jobs were reported to have the highest incidences of stress disorders. Four of the 10 were in the health profession. Colligan, Smith and Hurrell (1977) wrote:

Stress affects all workers to some extent and some more than others. In addition to the stresses the individual experiences in his or

her private life, the job itself can induce certain "set-up" stress levels which bring the worker close to the danger point. Then, all it takes is some precipitating event or problem, and the person gets pushed beyond the limits of adaptation, and he or she simply breakdown (p. 34).

This study will examine the manner in which stress can manifest itself in the life of a school counselor, a job which Colligan, Smith and Hurrell classified as a stress-producing occupation because it requires dealing with distressed clients and the employee feels a high level of obligation but lacks the sense of having the control necessary to meet expectations.

Background

One of the primary goals of persons in the helping profession who engage in the delivery of human services should be to provide their clientele with the most efficient and effective service possible. In order for this to occur, counselors must be physically and mentally prepared to address problem situations. Because stress significantly affects how counselors behave, counseling personnel are beginning to examine how the human organism, particularly the counselor, behaves under stressful conditions.

School counselors daily face seemingly insurmountable tasks. Too often, they feel incapable of handling these situations for any number of reasons, ranging from the pressures of home situations to not possessing the

necessary competencies. In order to address these concerns and explore new directions for counselors, school systems seek expert help from consultants outside the school systems. In May, 1977, the Flint, Michigan school system contracted an East Lansing, Michigan based firm, Stress Management, Inc., to teach its top administrators how to cope with and relieve stress.

Accordingly, the Detroit Public Schools provided their counselor supervisors and top administrators with 80 hours of inservice training which was designed to address major concerns and strategies for dealing with factors affecting their performances. Workshops on "Stress Factors in Counseling" and "Stress Factors and Motivation in Management" were conducted for the Detroit group by another East Lansing firm, Professional Psychological Consultants, Incorporated.

Also responding to a need to address the effect of stress upon personnel in their school system, the East Lansing Public Schools included a workshop entitled "Stress - What Causes It! What To Do About It!" in their 1978 Summer Inservice Training Agenda. The workshop presented information on sources of stress, how to identify it, and how to handle it for administrators in the school system.

On a much broader basis, the Michigan Department of Education conducted regional workshops throughout the state for upgrading the skills and competencies of student services personnel during the months of August and

September of 1978. In Area 4 (Saginaw, Flint, Bay City, Mt. Pleasant) and Area 5 (Marquette, Ironwood, Escanaba), workshops were conducted which concentrated on stress and the student services personnel.

On- and off-the-job events occurring in the lives of counselors can not be overlooked or taken lightly if quality service is to be provided by a counseling program. The need for further understanding of these stressful events and how they affect the lives of counselors is very apparent. Consumers of counseling services are asking for more viable results and accountability is a major concern. The sooner this fact is accepted and understood, the sooner efforts can be made to provide counselors with the understanding and the strategies necessary to successfully deal with the stress in their lives.

Rationale

Since the beginning of the study of man, the human organism's response to stress has been under close scrutiny. Workers in the helping professions have long wanted to know the "what" and "how" of the causes and responses to stressful events in one's life which trigger changes in his being.

Physicians are not alone in their concern with stress. Other professionals, such as psychologists and social workers, invoke stress to explain pathologies, for example, alcoholism, suicide, and drug abuse. They are joined by lay persons (whatever their

experience or sophistication regarding health and illness) in implicating stress in the development of disease (Levine and Scotch, 1970, p. 2).

Counselors are a special group of people who need to understand the impact of stress upon their lives, and the lives of their clients. Warnath and Shelton (1976) concluded that the ultimate disappointment is the "burned-out" counselor who suffers from a split between philosophy and survival, not being able to bridge the gap between ideals and job realities and working as an employee under stress. Dealing primarily with the delivery of human services, counselors, themselves, must be on top of situations and mentally and physically capable of providing their clientele with the best services possible. Therefore, it is extremely important to understand the causes of events which influence human behavior.

Man, unlike other creatures, is capable of influencing the nature of stress because he possesses two unique capacities: one, to control events in his environment, and two, to see or plan ahead. If he can control some of the stressful events in his life, then his responses to future events will be less severe because he can plan. "A better understanding of the process of coping with severe stress would have substantial clinical and preventative value" (Kaplan, et. al., 1973, p. 60). Since man can look or plan ahead, he can anticipate situations which evoke stress. His anticipation profoundly influences stress and thereby helps him in dealing with stressful life events.

If counselors can learn to understand and control aspects of their lives which impinge upon their performance, outlook and health, they will be more effective and efficient in their pursuits. McLean (1976) goes so far as to propose a legislative approach to helping individuals cope with stressors (those events which cause stress). He purports that:

One legislative approach that could foster the coping mechanisms of the individual and enhance the ability of the employer to support them would be to specifically require the establishment of "social indicators" as part of the monitoring process of a work organization. Such legislation could charge a capable agency with the development of indicators of attitudes, social climate, and participation and the development of techniques to evaluate their effectiveness (McLean, 1976, p. 47-48).

A counselor's behavior is largely dependent upon the stresses and strains of his everyday life. Events occur which trigger instantaneous body reactions. The body is adaptive and able to make adjustments, but only to a certain extent. Once it is pushed passed that point, something has to give. Very often the effects of stress show up in the form of illnesses. Tanner (1976) stated that:

Most people adjust their behavior to the everyday strains of life, dealing as best they can with mortgages, memos, and mothers-in-law, and whether or not they can afford a vacation at the shore - in the psychologist's term, they stay within their adaptive range (p. 23).

It is generally agreed that the less satisfied one is with his job, the more stressful the job becomes. Several

job components contribute more to creating stress than others. They include: the feeling that one does not have enough time, resources or abilities to do the job, responsibility for managing other people, incongruity between job status and educational attainment, little autonomy, and lack of stability, security and support in the job environment (HEW, 1973).

If counselors within a school system are able to identify those aspects of their jobs which lead to general job dissatisfaction, supervisors and administrators may be able to improve the functioning of their counseling departments, by changing those things that create dissatisfaction, and by assisting counselors in learning to cope with the others. If changes in the job situation can not be made or adequate responses provided, the continued presence of stressful job components may lead to dysfunctional stress. These job components have been related to a variety of mental health problems, such as low self-esteem, worry, tension, and impaired personal relations (Kasl, 1972; Kasl & Cobb, 1971; Kohn & Schooler, 1972).

Counselors under a great deal of stress will display less ability to tolerate the demands of daily activities, and to sort out the frivolous demands from the crucial ones. Thus, the manner in which they undertake tasks which confront them becomes uncertain, impetuous and error-filled. As Tanner (1976) has stated, "When an individual is faced

with a state of overload . . . his ability to improvise deteriorates, and his behavior regresses to simpler, more primitive responses summoned up from his past" (p. 23).

Just as stress overload can be unhealthy, so can stress underload. The absence or limited presence of stress-producing stimuli may in itself be a kind of stressor. Selye (1956), in discussing sensory deprivation and boredom, stated that under such conditions, people experience "an intense desire for extrinsic sensory stimuli and bodily motion, increased suggestibility, impairment of organized thinking, oppression and depression, in extreme cases, hallucinations, delusions and confusion" (p. 385). Counselors whose lives and jobs are unfulfilling and provide little or no challenge will not have enough stimulation or mental and physical exercise to provide competent guidance.

Purpose of the Study

The purposes of this study are four-fold. The primary purpose is to assess the relationship between stressful life events and the level of job satisfaction of elementary and secondary school counselors in Michigan. Secondly, it is the purpose of this study to examine the relationship between stress and the occurrence of certain illnesses in the same group. The third purpose is to determine the relationship between counselor job satisfaction and the occurrence of certain illnesses. Lastly, this study

purports to measure the impact of stress and job satisfaction on the occurrence of illnesses.

Results from such a study can be very beneficial to persons engaged in the delivery of human services in the field of education. In order for these persons to perform effectively and efficiently, they must be as comfortable as possible in their jobs. This would include being satisfied with their jobs, being under minimal stress and being fit (mentally and physically) to handle job demands.

Analysis of counseling departments using such a study could reveal idiosyncrasies which are affecting the smooth operation of the department and the effective performance of counselors. Efforts can then be made to correct those situations, thereby enhancing the functioning of the department and counselors who work therein.

Hypotheses

The following hypotheses will be tested in this study:

- Hypothesis 1: Michigan school counselors who experience greater amounts of stress will be more dissatisfied with their jobs than those counselors who experience less stress.
- Hypothesis 2: Michigan school counselors who experience greater amounts of stress will be prone to more illnesses than those counselors who experience less stress.

Hypothesis 3: Michigan school counselors who are less satisfied with their jobs will be prone to more illnesses than those counselors who are more satisfied with their jobs.

Hypothesis 4: Michigan school counselors who are less satisfied with their jobs and experiencing a great amount of stress will be more prone to illnesses than those counselors who are either less satisfied with their jobs or who experience great amounts of stress.

Data for testing these hypotheses will be provided by counselor responses to a stress-illness questionnaire (see Appendix C) and the Job Description Index (see Appendix D).

Related Questions

In conjunction with analyzing the four research hypotheses, this study will provide answers to questions of related interest. The questions to be answered will compare levels of stress, illness and job satisfaction with each of the proxy variables (age, marital status, sex, ethnic background, number of children, income level, level of education, type of school setting, occupation, size of school system and time in the job) for statistical significance. Additional questions to be answered are:

1. What area of the counselor's job is most satisfying?
2. What area of the counselor's job is least satisfying?

3. What area of the counselor's job is most stressful?
4. What area of the counselor's job is least stressful?
5. In which stress-linked behaviors are counselors more prone to engage?
6. Is the first or second half of the year more stressful for counselors?

Generalizability

The degree to which the results of this study can be generalized to other populations is dependent on the extent to which other populations are similar in characteristics to the population used in this study, and only in relation to the specific presentations used. The validity of interpretations resulting from this study which may be expanded to diversified populations should be considered climacteric. This is in general agreement with investigations of this kind.

Overview

The need for counselors in elementary and secondary schools is continually being questioned. When school budgets are cut, counselors are among the first to be released from their jobs. Often cited as one of the reasons for cutting counselors is that little progress or improvement can be seen as a result of counselors being in the system. To evidence the worth of counselors and the counseling profession, its proponents must show their worth. This can only be accomplished when supervisors of counselors and counseling department administrators make sure they are

receiving quality work from counselors. On-going evaluations of counseling departments and counselors will reveal flaws in the system which inhibit effective functioning. Some variables to be considered include areas of job satisfaction, stressful factors impinging on counselors' lives and overall mental and physical states of counselors. Counselors must then be taught how to identify and handle factors affecting their performance.

Unless counselors begin to take account of themselves and their performance, the profession will soon become seriously crippled and eventually distinct. The future of children whom counselors serve will be even more devastating as they are left to tackle mounting educational, vocational and personal problems without the assistance of their counselors, who could be invaluable assets in children's lives.

CHAPTER II

REVIEW OF THE LITERATURE

Introduction

Research into the relationship between stress and miscellaneous variables is diverse, and in many instances, voluminous. Its relationship with illness and performance has received the bulk of the attention of medical scientists, psychologists, epidemiologists and sociologists through the years. Factors such as intelligence, distraction, job satisfaction and demographic variables are virtually nonexistent in the literature in relationship to stress. The ambiguity which has resulted from the research leaves much room for further investigations into these variables.

For purposes of providing organizational coverage to the variables of interest in this investigation, the review of literature is organized into five areas:

1. Historical Perspective
2. Stress and Illness Studies
3. Stress and Job Satisfaction Studies
4. Illness and Job Satisfaction Studies
5. Stress, Illness and Job Satisfaction Studies

Much of the literature review contains the works and writings of a diversified group of contributors,

ranging from counselors to epidemiologists. Consequently, each participant has utilized divergent definitions of the term "stress," usually with consideration to a particular field of interest. Wolff (1960), in his recordings of a session of the proceedings of the Second Oxford Conference on the Mental Health Research Fund, recounted a "common language" definition of the current usages of the word "stress" as provided by Dr. Derek Richter. It stated that:

(1) The word stress, probably derived from 'distress', was used originally for any kind of hardship, burden, pressure or compulsion inflicted on a person or on a material object. A stress produces characteristically a condition of tension or strain in the person or object affected by it. The word is now used loosely in several different senses for (2) pressure or emphasis (as in the phrase to lay stress on) and particularly for (3) an adverse force, pressure or influence. The word is also used for (4) the state or condition of a person subjected to adverse influences causing tension or strain; and (5) a state of affairs or general situation characterized by adverse influences.

Dr. Richter further stated:

By "the stress of modern living" is generally understood the sum total of irksome obligations, duties, and social conventions, together with any other conditions of living that may give rise to worry, tension, anxiety, conflict or frustration. Mental stress may also arise for specific reasons, as in an individual who holds beliefs that are in conflict with the views of those in authority (Wolff, 1960, p. 32).

This literature review will further explore the definitions of stress as set forth by Richter.

Historical Perspective

An overview of scientific studies indicates that stress produces certain changes in man's physiological, motoric and cognitive functioning. The groundwork for research into the relationship of bodily changes to emotions (fear, anxiety, pain, anger) was established by Walter Cannon, a physiologist. Cannon (1929) postulated that the excitation of the sympathetic division of the autonomic nervous system brought about a multitude of glandular, smooth muscle, and metabolic responses which cause dramatic changes of increased heart rate and blood pressure, plus the mobilization of sugar in the blood (p. 196). He suggested that certain gross patterns form the basis of the body responses and that many of the individual changes physiologists observe can best be understood as being parts of coordinated whole-body response syndromes. The stress response pattern of the body, as postulated by Cannon, can be described by a series of bodily reactions involving the organs of the body as shown in Figure 2.1. It begins in the center of the brain, in the hypothalamus, whose reactions are to some extent dictated by the conscious part of the cerebral cortex. Among the many functions of the hypothalamus, it serves to stimulate emotions such as fear, rage and intense pleasure, which usually accompany stress. It also serves to regulate sex, growth, and reproduction. In determining

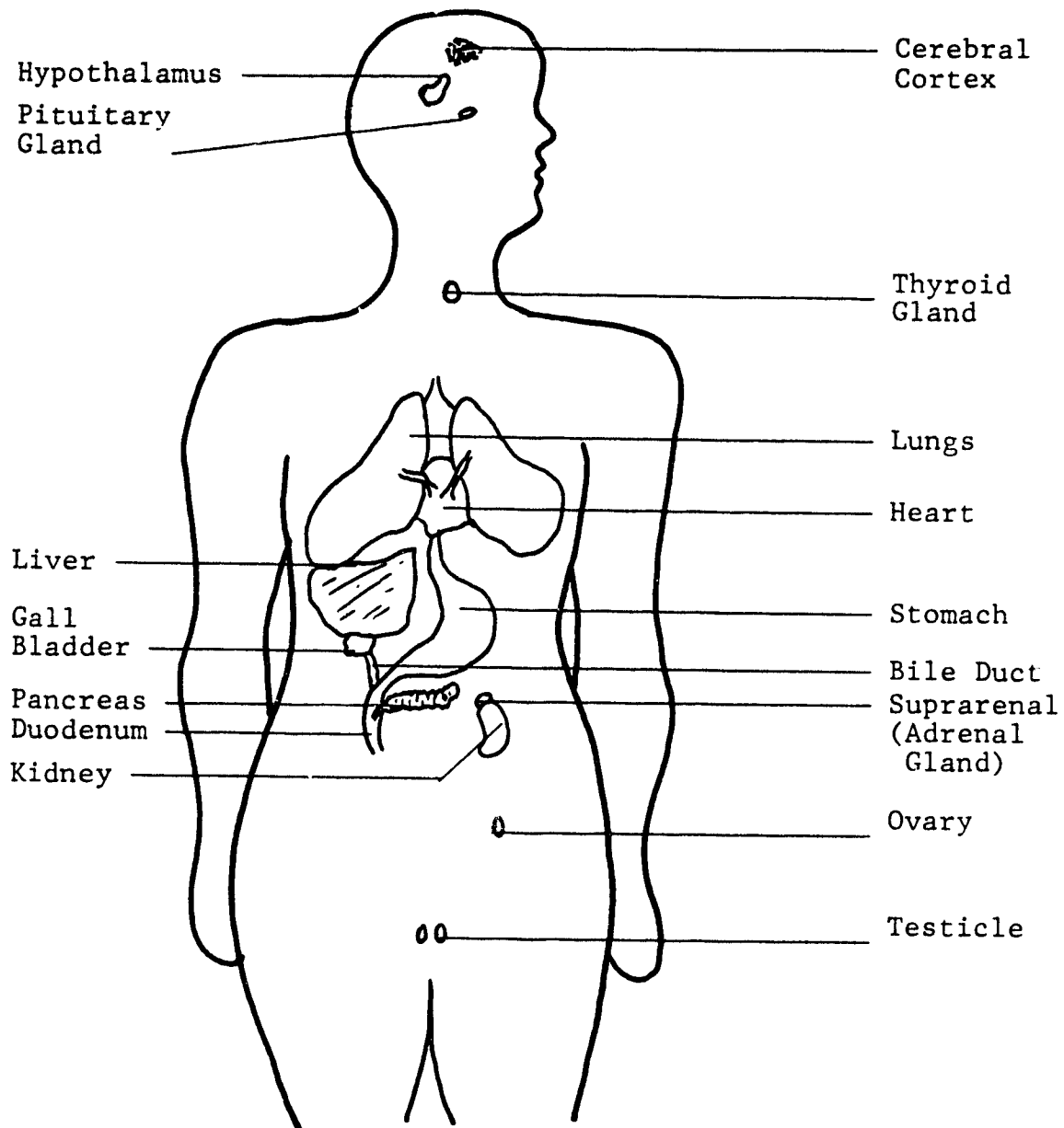


Figure 2.1. Organs of the body affected by stressful stimuli.

the body's reaction to stressful stimuli, the hypothalamus acts in two ways. First, it serves to control the autonomic nervous system, which regulates the involuntary activities of the body's organs. Second, chemical messages, or hormones are released directly into the bloodstream by the activation of the pituitary gland. These two systems working together, control the functioning of almost every part of the body.

Once this process has begun, the muscles of the body tighten at the command of the autonomic nerves, breathing is deeper and faster, heart rate rises as blood vessels straighten. Blood pressure rises and the vessels just under the skin almost completely close. Nostrils and throat passages expand while other body functions cease. The stomach and intestines halt digestion and muscles controlling bowels and bladder loosen. Perspiration increases, saliva and mucus production decrease and sense organs sharpen.

The adrenal glands release hormones which affect circulation, reinforce the autonomic nervous system in elevating heartbeat and blood pressure, signal the spleen to release more red blood corpuscles, enable the blood to clot more quickly, stimulate the liver to produce more sugar, give the oxygen more fuel to burn and increase the amount of fat in the blood.

The pituitary gland also secretes hormones that play a significant role in the manner in which the body responds to stress. The thyrotropic hormone, or TTH, serves to provide stimulation to the thyroid. This enables the body to produce more energy. The adrenocorticotrophic (ACTH) hormone causes the outer layer of the adrenals to produce about 30 other hormones that are about the surest signs of stress. In most of the experiments in laboratories, the ACTH concentration in the blood is used as an indication of the intensity of stress.

The body is now prepared for quick decisions, vigorous action and defense against enemies. The following physiological reactions can be observed: dilation of pupils which allows for more sensitive seeing, more acute hearing and smelling, faster breathing, pale skin due to blood leaving the vessels near the skin, perspiration and increased heart rate.

In providing this scientific description of the basic automatic response of the body to stress, Cannon stated that the response will vary in its force, depending on how important the challenge is perceived to be. But the pattern of the body's response will always remain the same.

This arousal condition described by Cannon (1932) was referred to as the "fight-or-flight" syndrome. He observed that it is as if the body had prepared itself quickly, efficiently and comprehensively for physical battle or for energetic flight to escape the problem situation.

An endocrinologist, Hans Selye (1956) elaborated on these concepts within his theory of hormone chemistry and the term stress response evolved. He agreed with Cannon, and other researchers have since confirmed, that the human body possesses a life-saving reaction pattern - the stress response - which comes into play in a variety of pressure situations. In his work, Selye explored the effects of stressful stimuli with the use of laboratory animals. Concentrating on the response of rats to cold, traumatic injury and nervous irritation, Selye developed the General Adaptive Syndrome (G.A.S.), which is the stress response characterized by a series of bodily reactions. The three stages of the G.A.S. are:

1. An Alarm Stage - It represents the initial response of the individual to a stressor and characterizes a general call to arms of the body's defensive forces. A series of changes occur which involve the adrenal cortex, the thymus and the tissues of the gastrointestinal tract. The body prepares to fight stress by releasing hormones from the endocrine glands. Heartbeat and respiration increase, blood sugar level rises, muscles tense up, pupils dilate and digestion slows. If the occurring syndrome is not diminished, it leads to the manifestation of the next stage:
2. The Stage of Resistance - It is opposite in reaction to the alarm reaction. In the alarm reaction, when the adrenal discharges visible granules of secretion into the blood stream, the stores of this gland are depleted and the cortex accumulates a reserve of secondary granules. If stress is overcome, the body repairs the damage that was done, the physical signs of stress disappear and resistance to the source of stress is increased. Continuous

and prolonged exposure to the stressor leads to the eventual loss of one's adaptation and the individual enters the third stage:

3. The Stage of Exhaustion - The symptoms are similar to those in the alarm reaction. If this stage is reached and stress continues long enough, the body's capacity for adaptation is exhausted and such stress-related illnesses as severe headaches, ulcers and high blood pressure can appear.

Also during the 1930's, Aldolph Meyer made a major contribution to the medical field with the introduction of the life chart as a tool in medical diagnosis. In a later publication, Meyer described the procedure for its usage when he wrote:

We begin with the entering of data and year of birth . . . ; we next enter periods of disorders of the various organs, and after this the data concerning the situations and reactions of the patient (p. 53).

His impression of situations which were to be included in the chart were:

The changes of habitat, of school entrance, graduations, or changes, or failures; the various jobs; the dates of possibly important births and deaths in the family, and other fundamentally important environmental incidents (Meyer, 1951, p. 53).

His work concluded that events need not be catastrophic or bizarre, but indeed the most normal and necessary events in one's life can be contributors to the development of illness.

Contributions to the linkage between stress and illness appeared in the work of Donnison (1938), where in his book, Civilization and Disease, he argued that one's

reaction to stimuli induced by life in a civilized community was responsible for organic disease. Though he provided no empirical evidence for his hypothesis, it was based upon his work as a physician to a tribal reservation on the shores of Lake Victoria in Kenya. In his patient population of 1800, he found no cases of high blood pressure, which he attributed to the undisturbed cultural patterns and time-honored methods of childrearing of the tribe.

Capitalizing on the work of Donnison, an epidemiologist, Halliday, contributed to the rise of stress-illness research in his book, Psychological Medicine: A Study of the Sick Society. In 1949, he concluded that conditions such as hypertension and coronary heart disease had their etiology in emotional tension which came about because of increasing inner insecurities of work, income, changing conditions of childhood and status in the social setting. But again, like Donnison, his observations were not accompanied by facts, but they did help to inspire later research which amassed much data in the area.

Providing more of a scientific base to the premise that processes of the nervous system can set the manifestations of disease in motion, Harold Wolff conducted a 30-year series of experiments to explore his thesis that the brain formulates physiological patterns of adaptation to stress. This manifests inappropriate reactions in their

type, amount and duration; thereby causing disruption and even destruction. Wolff used stress interview techniques to illustrate that emotions could elicit manifestations of a wide range of diseases, particularly, migraine headaches and exzema. His original work was revised by his friends and associates (Wolff and Goodell, 1968).

Hinkle (1974), an associate of Wolff, moved his investigations from the laboratory to the human ecological scene. He conducted a 20-year study of 1300 telephone operators which examined his belief that health is affected by changes in social or cultural milieu or in interpersonal relationships. He found that the operators who were healthy liked their work, found it easy and satisfying, liked their friends and associates and were generally content and comfortable in their personal lives.

Summarily, stress research has developed historically in two largely separate spheres. The study of psychosocial stimuli is sequestered primarily within the psychological sciences, while physical stimuli have been studied mostly within the physiological sciences and has grown largely out of the work of Hans Selye. In spite of disagreement through the years over the meaning of the term "stress," probably the single most remarkable historical fact about it is its continued widespread usage in the sciences.

Stress and Illness

Studies relating stress to illness appear with remarkable regularity in major sociological, psychological, psychosomatic, and psychiatric publications, and more sparsely in clinical medicine and epidemiology. The results of the studies are oftentimes contradictory, confusing, and fragmented. Providing insight into the disarray of stress-illness research, Greenberg (1977) stated:

What bothers researchers today is not the question of whether stress can cause disease . . . studies clearly indicate that emotional stress does contribute to high blood pressure, gastrointestinal problems and apparently to a wide variety of other illnesses in some individuals. Rather, the unanswered questions deal more with who becomes ill under stress, why other persons remain totally unaffected and healthy under stress (p. 394).

Adding to reasons for the ambivalence in stress-illness research, Appley and Trumbull (1967) concluded that researchers oftentimes do not take the following into consideration in their research:

1. Stress is probably best conceived as a state of the total organism under extenuating circumstances rather than as an event in the environment.
2. A great variety of different environmental conditions is capable of producing a stress state.
3. Different individuals respond to the same conditions in different ways.

4. The same individual may enter into a stress state in response to one presumably stressful condition and not to another.
5. Consistent intra-individual but varied inter-individual psychobiological response patterns occur in stress situations. The notion of a common stress reaction needs to be reassessed.
6. The behaviors resulting from operations intended to induce stress may be the same or different, depending on the context of the situation of its induction.
7. The intensity and the extent of the stress state, and the associated behaviors, may not be readily predicted from a knowledge of the stimulus conditions alone, but require an analysis of underlying motivational patterns and of the context in which the stressor is applied.
8. Temporal factors may determine the significance of a given stressor and thus the intensity and extent of the stress state and the optimum measurement of effect (p. 11).

A critique of problems inherent in specialized areas of stress-illness research are reported in the results of the June 1973 Conference on Stressful Life Events: Their Nature and Effects (Dohrenwend and Dohrenwend, 1974). Contributions from researchers of different disciplines covered the gamut of problems in conceptualizing and measuring stressful life events over the previous 10 years. The presentations of the conference as included in the volume are outlined as follows:

1. Research programs on relations between stressful life events and episodes of physical illness

2. Clinical research programs on relations between stressful life events and particular types of physical and psychiatric disorders
3. Community research on relations between stressful life events and psychiatric symptomology
4. Methodological research on stressful life events

Just as the interests of the researchers in the presentations are varied, so are the results of their work, adding to the interest and controversy.

Still, researchers believe they have made gainful progress in the area. The studies which have been conducted over the past years have produced enormous clues to the effects of stress and have provided a solid base upon which more sagacious research has been done.

The list of stress-linked disorders is continually growing. The list currently includes ailments such as heart disease, high blood pressure, ulcers, asthma, skin allergies, sexual problems, infertility, pain and urinary tract infections (Rodgers, 1978). Schildkraut (1979) included arthritis attacks, diabetes, dental problems, viral diseases, female problems (menstrual disorders, pelvic pain, fluid retention, excessive hair growth), and even cancer in his listing of stress-linked illnesses. The article further described symptoms which have been linked to stress. They included headaches, stomachaches, sleeplessness, chronic fatigue, palpitations, diarrhea and

choking sensations. The proceedings of the Association for Research in Nervous and Mental Diseases contain extensive research reports concerning man's reaction to stress. The research reports discussed methods of study, observations and prevailing concepts of stress linkage to:

1. Growth, Development and Metabolism
2. Diseases of the Eye
3. Diseases of the Airways
4. Headaches
5. Diseases of the Stomach
6. Diseases of the Colon
7. Diseases of the Muscles, joints and periarticular structures
8. Cardiovascular Diseases
9. Diseases of the Skin
10. Genital Disorders (Wolff, Wolf, Hare, 1950)

In addition to these disorders, a recent report in Science News revealed indications of stress-illness links at the cellular level. Its report was based upon a study by Steven Locke, a Boston University researcher. In a study of 117 randomly selected college students, Locke tested the hypothesis that stress alone is not sufficient to impair immunity. His premise was that the crucial factor would be how well a person coped with stress. Science News (1978) reported the procedures as follows:

Test subjects were classified as good copers or poor copers on the basis of a 91-item, self-reporting list of stresses during the past year, month and several weeks, along with the week prior to testing. Each student rated his or her own stresses - such as death in the family, probation, pregnancy, rejection from a graduate program and homosexual encounters - in terms of how much readjustment they entailed. Those ratings were matched against the self-reported symptoms (nervousness, depression, sleeping problems, etc.) to yield a coping level (p. 151).

The results of Locke's study indicated that "susceptible individuals, characterized by psychobiological adaptive failure (or poor coping), may have diminished cell-mediated immunity in the presence of high life stress symptoms" (Science News, 1978, p. 151).

Advancing the list of stress-related illnesses, the University of Uppsala and the World Health Organization (WHO), jointly sponsored a series of symposia on "Society, Stress and Disease from 1970 to 1976." The third of the series of five international, interdisciplinary symposia, focused on problems due to change in male/female roles and relationships. The proceedings of the third symposium present research into aspects of the male/female roles and relationships as psychosocial human stressors, and their possible influences on health and well-being (Levi, 1978).

Kagan (1978) provides further evidence of the notion that stimuli arising from change in male/female roles and

relationships may give rise to the following diseases and precursors of disease: venereal disease, unwanted pregnancy, suicide, interpersonal problems, diminished pair bonding, individual ill health and family ill health.

Taking a different approach from the other researchers listed, but with the same contention, Graham-Bonnalie (1972) holds that the mind and body are inseparable in looking at psychosomatic illnesses. He alphabetically lists approximately 80 disorders (from abdominal pain in children to wounds) where emotional stress has been linked to physical change in the individual. With each disorder, he describes the etiology of it in relation to the malfunctioning of body parts.

In examining stress-related illnesses from an urban perspective, Rivers (1977) lists "the diseases of adaptation" that are prevalent among Black populations. He states that the upward economic mobility strivings of middle class Black families leads to "disorders of adaptation": hypertension, strokes, alcoholism and emotional disorders.

Of all the ailments previously listed, coronary heart diseases (CHD) and hypertension/high blood pressure have received most of the attention of researchers in stress-illness studies. With CHD striking larger numbers of people, especially those at younger ages, research efforts are focused at the cause and prevention of CHD. Stress is often indicated as a cause of the disease. Prior to 1965, most

studies on CHD examined variables such as age, sex, serum lipids, blood pressure, cigarette smoking, obesity and occupations; but within the past 10 years, attention has shifted to include psychological and sociological factors as they relate to CHD.

Aiding research advancements into stress and CHD, Jenkins (1971), in an extensive review of the research literature on the subject of precursors of coronary disease, devoted much attention to research efforts of stress-coronary disease linkage. His review encompassed summaries of research efforts where:

1. Work overload was implicated as a cardiovascular stress
2. Social values of the Western civilization inflicted stress upon those who adhered to them
3. Selye's third stage of the G.A.S. was implicated as contributing to myocardial infarction and death
4. Psychic exhaustion and emotional drain resulting from long term struggles with persisting life problems often preceded death from coronary disease
5. Myocardial infarctions occurred in a setting of fatigue and clinical depression
6. Men with coronary disease viewed their environments as more conflict laden, the outcome of their actions as more unclear and their achievements as having less certainty of success.

Concurrently, stress is the "accused factor" in explaining the reasons for heart-related deaths of apparently

healthy people with no evidence of heart disease (Skinner, 1978). Skinner's investigations showed that in sudden heart attacks, the brain ruled the heart. The brain regulates changes in respiration and heart rate, and the event of a stressful situation, may send signals to the heart that cause ventricular fibrillation (heart muscle contractions that interrupt blood pumping).

Providing a milestone in stress-CHD research, Friedman and Rosenman (1974) found from their 30 years of studying coronary disease in hospitals, laboratories and consultation rooms, that in their population of heart attack victims, at least half of them could not contribute the usual causes (smoking, diet, exercise habit, etc.) to the onset of heart disease. This group, which they labeled "Type A," was characterized by excessive competitive drive, aggressiveness, impatience and a harrying sense of urgency and time. Their studies suggest that the stressful Type A pattern of behavior is an independent - and possibly the most significant - factor in causing heart attacks. Type A's counterpart, Type B, is characterized by having a lack of sense for time urgency, is patient, works without agitation, accepts restrictions of the environment cheerfully and is not compelled to display his achievements.

Furthering the work of Friedman and Rosenman, Rowland and Sokol (1977) provide a review of the research on coronary-prone behavior patterns, particularly the Type A

behavior. They conclude that Type A behavior is found to be fairly accurate in predicting the likelihood of severity of CHD. They also note problems which have been encountered in measuring and defining components of Type A behavior. From their review, Rowland and Sokol found that the interview method seemed to have had the most success in predicting future cases of CHD.

The other contemporary epidemic, hypertension/high blood pressure, is also amassing much convincing data on effective and well-controlled research. In his studies of hypertension, Page (1949) observed that it is regarded as a disorder of regulation in which the necessary complex feedbacks for internal stability of the organism are somewhat disturbed. He did not seek to find a single cause of hypertension, but viewed blood pressure as a steady state of regulatory factors interacting in equilibrium adapted to tissue needs.

Contributing to the advancement of hypertension studies, Harris and Singer (1968) stated that a person's interaction with the environment and time were critical in the etiology of essential hypertension. In interacting with the environment, one's pattern of personality and behavior is impinged upon causing changes in the neuro-endocrine and cardiovascular systems.

Holding similar contentions, Kiritz and Moos (1974) argue that one's perception of his social environment, as

mediated by personality variables, role and status relationships and his behavior within the environment which affects him, is influential in his personality and behavior.

Cassel (1975) is not as convinced as other researchers of the mechanisms underlying the rise in blood pressure. He examined the epidemiology of hypertension from a psychosocial viewpoint. He had as his theme the belief that it is not possible to focus on single causes of disease and that neuroendocrine upsets following social stress can at least accelerate the development of long-term pathophysiologic change.

Greenberg (1977) cited some of the uncertainties in the research of stress-hypertension and circulatory diseases. He concluded that the data from this research show that:

1. Blood pressure levels rise with age in some population groups, but not in others.
2. Males have higher blood pressure levels between the ages of 25 and 55 years, but females have higher levels after that; the age at which female pressures exceed males differs among different population groups.
3. Blacks tend to have higher blood pressure levels than whites, but there is a strong recent indication that the difference may be attributed to differences in socioeconomic status.
4. Those in lower socioeconomic groups have been reported to have higher blood pressure in some studies, but not in others.

5. Some researchers have reported higher blood pressure levels in urban areas; others have found higher blood pressure in rural areas. (Greenberg, 1977, p. 394)

These uncertainties may in part lend some explanation to the diverse research results that have come about from investigations involving stress and disease occurrence.

Large scale blood pressure studies have recently shown the importance of a shift in traditional values and implicate a deficiency of social assets in the disorders of the regulation of blood pressure. Henry and Stephens (1977) concluded from their review of pathophysiologic consequences of human social disturbances that:

Stress can arise from the migration of a society or from its transition to a different value system. A change in values leads to situations where previously sanctioned behaviors, especially that which is acquired during the sensitive learning period in youth, can no longer be used. Although the opportunity to express himself in the manner in which he is accustomed no longer exists, the individual still cannot help attaching great value to his behavior. The ensuing confrontations with his conscience and with his fellows lead to repeated emotional crises and consequent arousal of the neuroendocrine system (p. 207-208).

Some stress-illness studies focus on psychological aspects of stress research as opposed to physiological aspects. In this vein, Bell, et. al. (1975) conducted a three-county epidemiological study to examine the relationship between stressful life events, sociodemographic factors and rates of psychological disorder. A random sample of

2,029 individuals, aged 18 and older, was administered a 403-item interview schedule in their homes. The schedule was designed to solicit information regarding a vast number of social, general medical and psychiatric disorders. Additional instruments to measure mental health (Health Opinion Survey) and stressful life events were also used. The results of this study strongly suggest that there are quantifiable linkages between stressful life events, sociodemographic factors and psychological disorders. Whites reported having fewer stresses than Blacks, with Black females reporting the highest occurrences of stressful events and white females reporting the lowest number of stressful events. The youngest age group, 16-22 years old, had the highest mean score for stressful life events while the age category, 60 and over, showed the lowest mean score for stressful life events. Those individuals in the lower socioeconomic quintile reported having the highest mean score for stressful events. "One of the most significant of these (findings) is undoubtedly the fact that the stressful life events, as an analytic category, account for more variance in HOS (Health Opinion Survey) scores than does socioeconomic status" (Bell, et. al., 1975, p. 16).

Similarly, McCain, et. al. (1976) concluded that the psychological stress induced by crowded jail and prison conditions may be reflected in an increased level of

illness complaints. With regard to the prison, from a sample of 64 inmates, a t-test comparison of illness complaint rates in the dormitory and the single-man and two-man cells yield a significantly greater illness complaint rate in dormitory settings. Results from the county jail population of 824 support the findings of the prison investigation. It was found that during three of the five weeks of the jail investigation, there was a significantly greater rate of illness complaint data per inmate in units of high spatial and social density.

Research has not only linked stress with illness, but the suspicion that people under stress are more accident-prone has been raised by statistical studies. Hackenberg and Gallagher (1972) theorized that stresses associated with modernization are responsible for excessive accidental injuries among Indians. In an ongoing study of accident epidemiology among Papago Indians, the researchers found that risks for accidental injury were more than twice as great among modern villagers on the Papago Indian Reservation. High risks in modern villages were correlated with greater proportions of wage labor, high educational levels, and Protestant religious affiliation. In the same study, the relationship between high accident rates in modern villages and use of alcohol is also examined. It is summarized that "behind the use of alcohol and the accident case rate lies the elusive factor of stress producing experience" (Hackenberg and Gallagher, 1972, p. 225).

In a study of 100 college football players, Holmes and Masuda (1972) examined the life changes each player had experienced one year prior to the beginning of the season. They were placed in low, medium and high injury risk groups according to the total score obtained from life changes. At the end of the season, it was found that 9 percent of the low risk group had been injured, 25 percent of the medium risk group and 50 percent of the high risk group. Of the 10 athletes injured more than once during the season, seven were from the high risk group.

Efforts to provide more empirical approaches to the study of stress and illness have increased tremendously within the past 20 years. Thomas Holmes contributed much to the area when he studied the psychophysiologic reactions induced by stressful life events and the natural history of a disease (Hawkins, et. al., 1957). Beginning with tuberculosis, Holmes and his associates used a "life chart" to examine groups of events at the onset of symptoms. The cluster of events included marriage, occupation, peer relationships and education. Results of the study showed that various events elicited adaptive coping behavior but no allowances were made for the differing intensities of stimulation that might ensue from events as different as the death of a spouse and marriage.

The work culminated in an attempt to measure stress directly in the Social Readjustment Rating Scale (SRRS) with the assistance of Richard Rahe (Holmes and Rahe, 1967). Forty-three critical changes in one's life according to the severity of their impact are ranked and rated on a scale of 0 to 100 Life Change Units (LCU). Subsequently, weights were assigned to each item based upon ratings by a standardization sample who were asked to rate each of the life events "as to their relative degree of necessary readjustment." The results of their evaluations formed the basis of the SRRS, as shown in Figure 2.2. Combinations of LCU are meaningful and useful in predicting the effects of severe stress. From the results of numerous studies, the researchers were able to make the following conclusions if one amasses a certain number of LCUs over a single year:

- 150 - 199 LCUs - 39% chance the individual will experience a mild life crisis
- 200 - 299 LCUs - 51% chance the individual will experience a moderate crisis
- Over 300 LCUs - 79% chance the individual will experience a major life crisis within the following year.
(Masuda and Holmes, 1967a)

Subsequent studies by Holmes and his associates involving the SRRS indicate that the scale is applicable regardless of race, age, country, or culture. The studies have yielded the following correlations of magnitude and

Rank	LCU Value	Life Event
1	100	Death of spouse
2	73	Divorce
3	65	Marital separation
4	63	Jail term
5	63	Death of close family member (except spouse)
6	53	Major personal injury or illness
7	50	Marriage
8	47	Fired at work
9	45	Marital reconciliation
10	45	Retirement
11	44	Change in health of family member (not self)
12	40	Pregnancy
13	39	Sex difficulty
14	39	Gain of new family member
15	39	Business readjustment
16	38	Change in financial state
17	37	Death of close friend
18	36	Change to different occupation
19	35	Change in number of arguments with spouse
20	31	Taking on mortgage over \$10,000
21	30	Foreclosure of mortgage or loan
22	29	Change in responsibilities at work
23	29	Son or daughter leaving home
24	29	Trouble with in-laws
25	28	Outstanding personal achievement
26	26	Spouse begins or stops work
27	26	Begin or end school
28	25	Change in living conditions
29	24	Change in personal habits (self or family)
30	23	Trouble with boss
31	20	Change in work hours or conditions
32	20	Change in residence
33	20	Change in schools
34	19	Change in recreation
35	19	Change in church activities
36	18	Change in social activities
37	17	Taking on mortgage or loan less than \$10,000
38	16	Change in sleeping habits
39	15	Change in number of family get-togethers
40	13	Change in eating habits
41	13	Vacation
42	12	Christmas
43	11	Minor violations of the law

Figure 2.2. Social Readjustment Rating Scale (Holmes and Rahe, 1967).

rank order of life events: Blacks and Whites, $r = 0.82$ (Komaroff, Masuda & Holmes, 1967); Orientals and Whites, $r = 0.94$ (Masuda & Holmes, 1967b); first and third generation Americans, $r = 0.92$ (Masuda & Holmes, 1967b). Komaroff, et. al. (1967) found that, in an examination of the SRRS with Negroes, Mexican and White Americans, significant differences occurred in life change items, numerical responses of the Mexicans and Negroes and the responses of the previously examined white group. The responses of the Mexican and Negro groups differed more from the white American group than did previously studied Japanese population; but all three groups were significantly in accordance in the ranking of life-change items.

The SRRS has more recently been suggested for use with school principals (Gmelch, 1978). He uses the following analogy of how a principal may use his score on the SRRS as an indicator that something should be done to alleviate or postpone future major events:

What about the principal who, due to outstanding performance (28 LCUs) was offered a superintendent position (36 LCUs) with new job responsibilities (29 LCUs) and a large salary increase (38 LCUs). This promotion may have also precipitated moving into a new area (20 LCUs), buying a new home (30 LCUs) with a large mortgage (31 LCUs), and many changes in living conditions (25 LCUs) and social (18 LCUs), church (19 LCUs) and recreational activities (19 LCUs). At this point the needle has already moved into the danger zone (296 LCUs). To this add a particularly stressful vacation and our principal-superintendent may be in for a serious change in health (Gmelch, 1978, p. 8).

The SRRS has also been used to investigate the life changes of prison inmates (Masuda, 1979). In a study of 176 state prison inmates, Masuda found that the inmates had experienced a greater than average number of life changes the year prior to their incarceration.

The work of Holmes and his colleagues with the SRRS has served as a basis for the development of other instruments which measure stressful life events. Bramwell, et. al. (1975) modified the SRRS to create the Social and Athletic Readjustment Rating Scale (SARRS) whose purpose was to examine the possible role of psychosocial factors in athletics. Life change scores over one- and two-year intervals were obtained from college varsity football players. Players suffering major time loss injuries had significantly higher predictive scores than noninjured players on the SARRS.

Replicating and extending the work of Holmes and Rahe, Paykel, Prusoff and Uhlenherth (1971) selected a different scaling method and produced a 61-item life events scale. Paykel used a 0 to 20-interval scale with no events fixed. Events were scaled in reference to a concept of upset rather than adjustment to life change, as in the Holmes scale. Events on the Paykel scale included items from the Holmes scale which had been changed in wording or content.

Research into stress and illness has, at times,

focused on a particular occupation. In one such study, the Federal Aviation Agency commissioned a study of air traffic controllers. Cobb and Rose (1973) found that there was (1) "compelling" evidence that the stresses under which air traffic controllers work result in increased risk of hypertension; (2) "moderately strong" evidence linking work stress to peptic ulcer; and (3) "suggestive" evidence connecting diabetes to work stress.

In another study in 1947, heart disease was implicated as the main cause of premature death in train dispatchers, and still holds true today according to the president of the American Train Dispatchers Association. McCord (1948) found that train dispatchers were asked to make approximately five decisions a minute over an eight-hour day, six days a week. These decisions usually involved life or death situations for passengers and crews. McCord (1948) wrote:

A lifetime friendship with a train dispatcher may be a short affair - about 15 years . . . Few are aware that the train dispatcher who starts his duties at age 35, after years of preparation as a telegrapher or tower operator parts company with this trouble globe near the age of 50.1 years . . . Premature heart disease is the greatest single factor in establishing the average age of death of train dispatchers at 50.1 (p. 35).

Even though most of the large body of stress-illness research concurs that there is a definite relationship between the two variables, it is inexact about how the relationship occurs. The World Health Organization's Expert

Committee on Mental Health (1964) attempted to shed light on the lack of clarity in this area by providing a summary of the sequences of involvement which can lead to physical disorder:

1. Constitutional predisposition based on heredity;
2. Constitutional predisposition laid down as a result of early experience and development (both physiological and psychological experience, and the pre-natal period as well as infancy, are included here);
3. Personality changes of later life that affect organ systems;
4. The weakening of an organ, as by injury or infection;
5. The fact that an organ is in action at the moment of strain or emotional upheaval;
6. The symbolic meaning of the organ in the personality system of the individual;
7. Organ-fixation as a result of arrested psychological development (p. 9).

Henry and Stephens (1977) concur with WHO's perception of illness onset in their book, Stress, Health and the Social Environment. The book has as a format, a chain of events theme, beginning with psychosocial perception and concluding with chronic disease.

In conjunction with the summary of involvement approach to explaining the etiology of illness, researchers have also concluded that the occurrence of illness is dependent upon certain characteristics which are unique to each individual.

They include heredity factors, character, temperament, age, sex, state of health, emotional balance, past experiences and environment (Graham-Bonnalie, 1972). Torrance (1965) contends that the duration and intensity of the stress and the state of the organism (ego strength, spontaneity, ability, skills, physical strength, etc.) mediate the effects of stress in the occurrence of illness.

Summarily, studies relating stress to illness appear with remarkable regularity in the literature. Though most of the studies concur that there is a definite relationship between stress and illness, the studies are not so emphatic about how it occurs. They basically conclude that illness onset is the outcome of multiple characteristics of the individual interacting with a number of interdependent factors in the individual's social context.

Stress and Job Satisfaction

Because work occupies about one-third of the employed person's time, the dissatisfactions of the work situation are paramount and among the types of life stresses that are receiving frequent attention in the literature. Friis (1976) concludes that job dissatisfaction may come about as a result of a number of variables within the work setting. They include:

The ability of the worker to decide upon the method and nature of task accomplishments, the level of occupation and role of work position, the degree of work overload, the

amount of interpersonal tension and conflict among workers, socialization and selection patterns within the organization, the degree of monotony of the tasks, and exposure to noise and other occupational hazards (Friis, 1976, p. 595).

In relating variables which are associated with job dissatisfaction, Gross (1970) categorized work stress into three areas: organization career stress (risk of unemployment, the career sequence, the process of disengagement from organizations that must come at the end of one's career); task stress (inability or inadequacy in performing tasks assigned, threat to things one values); and organization structure stress (what follows from the demands and needs of working together to obtain any end).

Albrecht (1979) lists the principal variables in overall job satisfaction which provide an effective balance between stress and reward for the worker. The eight loading variables he describes are: workload, physical variables, job status, accountability, task variety, human contact, physical challenge and mental challenge. To provide a full account of job satisfaction, Albrecht further states that the obvious factors of pay and benefits, overall social climate of the work situation and quality of supervision received must be added to the eight loading factors.

The general assumption of most job satisfaction studies is that the more dissatisfied one is with a

particular job, then the more stressful is the job.

Many studies have concerned themselves with the impact of supervision on job satisfaction. Two such studies by Pelz (1952) and Pelz and Andrews (1966) conclude that the more consideration a supervisor showed his employees, the more satisfied they were and the less stress they experienced.

Supporting and adding to the importance of supervision as a component of job satisfaction, Herzberg, Mausner, Peterson and Capwell (1957) compiled data from 15 studies in which workers were asked what made them satisfied or dissatisfied with their jobs. The most frequently mentioned item of satisfaction was supervision, followed by security, job content, company and management, working conditions, and opportunity for advancement and wages. Only relationships with co-workers was mentioned more often than supervision. When the same group listed sources of dissatisfaction on the job, supervision was the fourth most frequently named job factor.

In another attempt, Herzberg, et. al. (1957) compiled data from 16 studies in which workers were asked to rank order job factors in terms of their importance. The rank ordering was (highest to lowest): security, opportunity for advancement, company and management, wages, intrinsic aspects of jobs, supervision, social aspects of jobs, communications, working conditions and benefits.

Another major variable in job satisfaction-stress

research is job content which has often created controversy with job conditions. A study of a group of accountants and engineers by Herzberg, et. al. (1959) investigated job satisfaction and dissatisfaction by having the participants tell about the times in their work when they felt exceptionally good and exceptionally bad. The events concerning feeling good usually involved job content (achievement, recognition, responsibility) while those concerning feeling bad usually involved factors associated with job conditions (company policies, wages, supervision, working conditions).

Vroom (1964), in criticizing the Herzberg study, concludes that defensive processes are at work. He wrote:

People may be more likely to attribute the causes of satisfaction to their own achievements and accomplishments on the job. On the other hand, they may be more likely to attribute their dissatisfaction, not to personal inadequacies or deficiencies, but to factors in the work environment (i.e., obstacles presented by company policies or supervision) (Vroom, 1964, p. 85).

Among the job context factors mentioned in the literature are specialization, work pace, use of skills and abilities, success or failure in work performance, interruption of work on tasks, and job level. In reference to specialization, the findings are that when specialization leads to repetitiveness, it results in job dissatisfaction. One of the most famous studies was conducted by Trist and Bamforth (1951) where they implemented changes in techniques

of coal mining. Persons who initially oversaw all operations were placed in positions of specialization where their tasks were limited. Resulting behaviors of the specialized situation included high absenteeism and increased psychosomatic illnesses.

Studies involving work pace generally conclude that the inability to control one's pace of work is associated with low worker satisfaction. Vroom (1964) modified Maslow's theory of self-actualization which states that a man must use his abilities and skills if he is to be completely happy. Vroom's (1966) modification stated that:

Thus, we would now predict greater job satisfaction on the part of people who believe that their jobs require abilities which they believe they possess (p. 142).

In the same vein, a study by Brophy (1959) concurred with Vroom's modified hypothesis. In his study of eighty-one female nurses, ratings were obtained to determine the extent to which their jobs permitted them to be like a group of traits each had selected as being reflective of themselves. It was found that the less the nurses saw their jobs as demanding the qualities they possessed, the lower their job satisfaction.

Finally, job level has frequently been correlated with job satisfaction. Gurin, Veroff and Feld (1960) conducted a nationwide study which determined that 42 percent of persons in professional-technical occupations

were very satisfied with their jobs, whereas only 13 percent of unskilled workers reported being very satisfied.

Kornhauser (1965) provides an explanation of this occurrence when he postulates that persons who are in lower level jobs may be those who gripe about their jobs while those who are able to do something about it will have responded more positively by either doing something about it or leaving the job.

In examining stress and job satisfaction in specific occupations, Ivancevich and Donnelly (1975) conducted a study of 295 trade salesmen in three organizations. They found that salesmen in flat organizations perceive more satisfaction and less anxiety-stress than salesmen in medium and tall organizational sales groups. The most cited complaint by men in the medium and tall organizational structures was that they were constantly checked on by their supervisors who were viewed as restrictive, stifling, constraining, lacking in trust, and exerting excessive control.

More recently, McLean (1976) conducted a study in which 865 employees at three levels of management in one company were asked about their work satisfaction, perceptions of stress in their work, and the extent of specific physical and emotional disabilities at the current time and three years previously. It was found that there was no

correlation between a change in anxiety and job satisfaction (salary, hours worked, number of hours traveled from home), but there was a correlation between increases and decreases in anxiety and the perception of job stress, work satisfaction and reported physical and health problems.

Gavin and Axelrod (1977) examined the effects of occupational stresses on the job-related strains of management personnel in an underground mining organization. Measures of job stress and strain were obtained from 95 management level employees and 13 potential moderators of stress-strain relations were assessed. The study found that stresses such as role conflict and ambiguity, job security, participation, variation in work load and most notably, utilization of skills had moderate to high relationships with the psychological strains of anxiety-depression-irritation, job satisfaction and psychosomatic complaints.

In summary, studies of stress and job satisfaction reveal that various aspects of the work situation play different roles in determining how satisfied one is with his job. These job aspects provide an effective balance between stress and reward for the worker. The general assumption of most of the studies is that the more dissatisfied one is with his job, the more stressful the job will be.

Illness and Job Satisfaction

In many instances, it is difficult to delineate stress-job satisfaction research from illness-job satisfaction research because oftentimes, many illnesses brought on by job dissatisfaction are viewed as having stress in their etiology. In these cases, job satisfaction (dissatisfaction) is used as a measure of stress. Consequently, some of the previously discussed studies under the stress-job satisfaction sub-heading may well be included in this section.

Sales (1969) reviewed several publications in medical journals which suggest that organizational roles are a significant factor in the etiology of coronary disease, particularly when involving role overload or underload. Role overload is viewed as a stressor that is commonly known in organizational environments. From his review, Sales concludes that overloading roles can exert a marked deleterious effect upon the health of overloaded individuals. He further suggests that organizational roles exert their most harmful effect upon those organizational members who experience the lowest job satisfaction. In explaining the relationship of role overload to the Type A person, Sales (1969) states:

The Type A syndrome, or the presence of one or more of its constituent traits, causes the individual to seek positions, particularly

overloading positions, for which his abilities do not fit him . . . The Type A person sooner or later takes on more duties than he can accomplish . . . he will experience overload and presumably a concomitant decrease in job satisfaction, and this should lead to increases in his serum cholesterol and his risk of coronary disease (p. 334).

Friis (1976) contends that job dissatisfaction may be causally linked with premature death due to heart disease or may be associated with the increased risk of heart disease. Taking the psychosocial viewpoint, he considers premature death from coronary disease to be the result of interacting environmental, psychological, social constitutional and behavioral characteristics of the individual. These include the work environment, individual needs, behavioral styles and coping responses, innate biological constitution and certain personality predispositions.

Sales and House (1971) describe three separate investigations which test the hypothesis that an individual's dissatisfaction with his job has an important influence upon the risk of coronary disease. The first study, conducted in the late 1940's, involved random samples of 3 scientific groups (biologists, chemists and physicists) and a nation-wide sample of 3000 working class males. The second study, conducted in Detroit in the 1950's, included probability samples of 207 lawyers and 68 university professors. The third study involved a national

cross-section of working men including 127 managers or proprietors, 55 sales workers and 46 clerical workers in the 1950's. Mortality ratios due to coronary heart disease and average levels of job satisfaction are known for each group. Differing slightly in methodology, each study provides reasonably strong support for the hypothesis that job satisfaction is negatively related to a group's death rate due to coronary heart disease. Some methodologic problems with the studies were discussed, but the influences of these problems is considered to be conservative.

In a study of the relationship between job tenure, job satisfaction and mental health, Klein and Wiener (1977) found that in a sample of 54 middle managers, significant moderator effects (interest-present job congruency) were found for mental health indices of self-esteem, life satisfaction, overall mental health and for satisfaction with supervision. For high congruency individuals, these indices correlated positively with job tenure, while for low congruency individuals, the obtained correlations did not differ significantly from zero.

More specifically, the managerial segments of two divisions of a 35,000 employee airline company were examined in regard to their possible implications for mental health in a study by Gavin (1975). Of the two divisions, one was a line organization operating in a relatively autonomous fashion and the other was a corporate

staff system. Gavin tested the hypotheses that:

(1) the employees of the two subsystems would differ significantly in their perceptions of the work environment; (2) perceptions of the work environment would have significant relationships with mental health criteria; (3) correlations between work environment perceptions and mental health criteria will be different for the two work systems; (4) males and females would differ in their perceptions of work environment, as well as on measures of mental health; (5) correlations between work environment perceptions and mental health criteria will be different for male and female employees. The results of the study indicate that there are differences in perception of the work environment by the two groups; females in both groups, as compared to males, tend to view their environment as more frustrating and having less equitable rewards; employee perceptions vary in systematic ways with criteria for mental health.

In the 1950's, studies were conducted to evaluate the effects of illness and job satisfaction as a source of stress. Friedman, Rosenman and Carroll (1959) found such stressors as deadlines, intense competition, long hours and a second job to be associated with higher levels of serum cholesterol and increased risk of coronary heart disease. (Serum cholesterol, one of the several factors in the blood that increases with stress, is associated with the onset of coronary heart disease.)

Overall, studies of illness and job satisfaction bear much resemblance to stress and job satisfaction studies because job satisfaction (dissatisfaction) is oftentimes used as a measure of stress, and illnesses associated with job satisfaction are assumed to have stress in their etiology. The results of these studies reveal that the greater job satisfaction one experiences, the less likely the person is to experience certain illnesses. Several of the studies indicate coronary heart disease as a condition to be reckoned with in the area of job satisfaction and illness.

Stress, Job Satisfaction and Illness

Very little systematic research into the effects of stress, job satisfaction and illness had been done before the 1950's. The Institute for Social Research at the University of Michigan was one of the first organizations to be interested in this problem. Since 1957, the group has been working to identify job stresses and their relationship to health. They have identified the following stresses as relating to coronary heart disease:

1. Role ambiguity - having unclear objectives, expectations, and understanding of one's responsibilities.
2. Role conflict - conflicting demands, pressures to get along with others, having differences with supervisor.
3. Role overload - having too much or too little to do with too difficult or too easy a job.

4. Responsibility for people - feeling responsible for the health and well-being of others.
5. Poor relations with others - not getting along with supervisors, peers or subordinates.
6. Participation - having influence on decision-making processes in one's organization.

Other significant aspects of work which have been identified as possible sources of stress include changing work shifts, unnatural work-rest regiments, frequent geographical moves and inequities in pay and job status.

Groups of researchers such as De Sola-Nielson, Colligan, et. al., Gersten, et. al., Howard, et. al., Indik, et. al., and Palmore and Jeffers have conducted studies which have added to the literature. De Sola-Nielson (1977) conducted a study of 140 women between the ages of 21 and 65 to examine the relationship between job satisfaction, stress and illness. Fifty-two subjects were housewives, 85 were employed, and 3 were students. From responses provided to a questionnaire, the employed women and housewives showed no difference in what each group considered the ideal job in overall job satisfaction. Women in both groups who experienced feelings of achievement and challenge and financial rewards in their jobs reported better health, fewer medical and stress symptoms, lower levels of psychoactive drug usage and higher overall life satisfaction than the other women who were low in these dimensions.

A 1972-74 survey of occupations in Tennessee aimed to provide occupational health professionals with an empirical basis for identifying and selecting specific occupations for further research into the relationship between psychological job stress and worker health. Colligan, Smith and Hurrell (1977) examined all records (8,045) from 22 mental health centers and recorded all admissions, diagnoses, frequency of admission, and selected demographic information which included job description of the client. The study resulted in a rank order listing of the most stressful jobs, of which 6 of the top 22 positions were filled by hospital/health care occupations. Executives and professionals are noticeably missing from the listing, which may only indicate that they opted to utilize services of private physicians.

Gersten, Friis and Langner (1976), in a longitudinal study of 1,034 Manhattan families with at least one child 6 to 18 years old, examined the degree to which job and marital satisfaction and participation in leisure activities could predict concurrent and future health status relative to ethnicity, class and occupational factors, and mental health. From interviews conducted over two time periods with the wives of working men, three independent variables (socioeconomic status, life and job dissatisfaction, general mental health) and five dependent variables (two related to health status and three related to changes in health or

reflected illnesses in the husbands) were analyzed.

Results of multiple regression and partial correlation statistical analyses found that:

1. The variables most strongly related to the husband's job dissatisfaction were wife's dissatisfaction with husband's work, husband's occupation, husband's education, having an unhappy marriage and wife's education.
2. In reference to social stratification, husband's education, wife's education and husband's occupation were strongly interrelated.
3. A husband's poor health at Time I significantly and strongly related to husband's job dissatisfaction among the set of predictor variables, with an unhappy marital situation contributing strongly.
4. Job dissatisfaction and other life dissatisfactions related to concurrent health.

Overall, this preliminary investigation indicated that certain life satisfactions were important predictors for either concurrent or future health status which operate across class, ethnic, occupational and mental health factors. These findings tend to support models which postulate stressful psychosocial conditions as potential etiologic agents in development of illness.

Howard, Cunningham and Rechnitzer (1977) developed a model by which personality and job conditions combine to produce behavior, when occurring in its extreme, is related to known risk factors in coronary heart disease. Their study, based upon Rosenman and Friedman's Type A

personality description, examined 236 managers from 12 different companies to delineate those managers with Type A behavior. Additional information (number of hours worked per week, travel habits, job satisfaction, job tension factors, salary) was obtained on each respondent. Sixty-one percent of the managers were classified as Type A. The model which was derived from the results of the study indicates that high growth companies tend to produce managerial job conditions eliciting Type A behavioral syndrome. The most influential job conditions included supervisory responsibilities, competitiveness, heavy workloads, and conflicting demands. Though managers with Type A characteristics appear more successful (higher salaries), they display behaviors which appear to be linked to higher levels of coronary risk, produce more stress symptoms and have greater feelings of job dissatisfaction.

Inkik, Seashore and Slesinger (1964) examined the degree and form of association between certain demographic characteristics (age, sex, education) and the occurrence of psychological strain in a firm-wide study of employees of a multiplant food products manufacturing and sales firm. Measures of job related strain, economic strain and psychosomatic symptoms were obtained from over 8,234 respondents by way of a checklist questionnaire. The study found that age, sex and education were equally strongly related to the variations in psychological strain. Job related strain

was generally lower among older persons but higher among men than women and showed no relation with education. Economic strain peaked in the 20-39 age range, showed no consistent relationship to sex and declined generally in relation to education. Psychosomatic symptoms were fewer among older and more educated people.

The best evidence that stress, job satisfaction and illness are related comes from the Duke Longitudinal Study of Aging. Palmore and Jeffers (1971) conducted a study of 268 volunteers, aged 60 to 94 years. A Longevity Quotient was determined by dividing the number of years a person actually lived by the actuarially expected number of years remaining at the time of an initial examination. From the sample, work satisfaction was the best predictor of the Longevity Quotient, except for Blacks, and was strongest among those who were likely to be working full-time. The social worker's rating of the respondent's overall happiness was the second best predictor. These two measures more accurately predicted longevity than either an overall physical functioning rating by the examining physician or a measure of the use of tobacco.

In summary, most of the studies in this area utilize similar approaches in their examinations of stress, illness and job satisfaction. In most instances, stress and job satisfaction are used as predictors of illness. The studies differ in their identification of sources of stress and

job satisfaction. Some studies can even identify job satisfaction as a source of stress. Nevertheless, the literature is very supportive of a strong relationship between stress, illness and job satisfaction. It has only been since 1950 that research into the area began to be conducted with any regularity, even though previous studies involving job satisfaction have contained variables of stress or illness which were causally linked.

Summary

The literature is generally supportive of the notion that relationships do exist between stress, illness and job satisfaction. Stress and illness studies appear with more regularity in the literature than any others. Coronary heart disease and hypertension are the most frequently studied diseases in the list of over 80 stress-related illnesses, especially in their relation to stress and job satisfaction.

Figure 1.3 provides the reader with a graphic presentation of the literature reviewed in this study as it relates to the research on stress, illness and job satisfaction. The review has been limited to include only that research which is of interest in this study.

Many of the studies have encountered difficulty in their methodologic approach, research findings or complete understanding of the results. Much of the difficulty has

arisen from a lack of congruency in the definitions of key words such as stress and job satisfaction. Researchers have also used diversified techniques in conceptualizing and measuring stress, illness and job satisfaction. In measuring illness, there have been problems inherent in mixing levels of analyses, the physiological and psychological, and the social and psychological.

Even with its fallacies and flaws, stress, illness and job satisfaction research has clearly implicated a relationship between the variables. The research has also proven to be a sound basis on which to focus other research in the area.

VARIABLES OF INTEREST

Stress	Illness	Coronary Disease	Hypertension/High Blood Pressure	Job Satisfaction	Education	Marital Status	Age	Sex	Ethnic Background	AUTHORS
X				X						Albrecht
X	X									Appley & Trumbull
X	X						X	X	X	Bell, Warheit, Holzer, Buhl
X	X					X		X	X	Bramwell, Masuda, Wagner, Holmes
X				X				X		Brophy
X	X									Cannon
X			X							Cassel
X	X									Cobb & Rose
X	X			X						Colligan, Smith & Hurrell
X	X			X			X	X	X	De Sola-Nielson
X	X									Donnison
X	X									Dohrenwend & Dohrenwend
X	X	X								Friedman & Rosenman
	X			X						Friedman, Rosenman & Carroll
X	X	X		X						Friis
	X			X				X		Gavin
X	X			X						Gavin & Axelrod
X	X			X	X	X		X	X	Gersten, Friis & Langner
X	X									Gmelch

Figure 2.3 Summary of Literature Review on Stress, Illness and Job Satisfaction

Figure 2.3 (continued)

VARIABLES OF INTEREST

Stress	Illness	Coronary Disease Hypertension/High Blood Pressure	Job Satisfaction	Education	Marital Status	Age	Sex	Ethnic Background	AUTHORS
X	X					X	X	X	Graham-Bonnalie
X	X		X			X	X	X	Greenberg
X			X						Gross
X			X						Gurin, Veroff & Feld
X	X							X	Hackenberg & Gallagher
X	X								Halliday
X		X							Harris & Singer
X	X								Hawkins, Davies & Holmes
X	X								Henry & Stephens
X			X						Herzberg, Mausner, Peterson & Capwell
X			X						Herzberg, Mausner & Snyderman
X	X		X						Hinkle
X	X								Holmes & Masuda
X	X								Holmes & Rahe
X	X	X	X						Howard, Cunningham & Richnitzer
X	X		X	X		X	X		Indik, Seashore & Slesinger
X			X						Ivancevich & Donnelly
X	X	X							Jenkins
X	X						X		Kagan
X		X							Kiritz & Moos
	X		X						Klein & Wiener

Figure 2.3 (continued)

VARIABLES OF INTEREST

[illegible]

Figure 2.3 (continued)

VARIABLES OF INTEREST

AUTHORS	Stress	Illness	Coronary Disease	Hypertension/High Blood Pressure	Job Satisfaction	Education	Marital Status	Age	Sex	Ethnic Background
	X	X	X							Skinner
	X	X								Torrance
	X				X					Trist & Bamforth
	X				X					Vroom
	X	X								Wolf & Goodell
	X	X								Wolff
	X	X								Wolff, Wolf, Hare
	X	X								World Health Organization
	X	X								

CHAPTER III

STUDY DESIGN AND PROCEDURES

Introduction

The primary purpose of this study was to investigate the relationship between stress, illness and job satisfaction in school counselors in the state of Michigan. This chapter will focus on the characteristics of the population and sample, instrument selection and procedures for implementation of the study.

Description of the Population

The general population of interest for this study included the 3,146 persons who were employed as school counselors in the state of Michigan. A subset of this population served as the population of immediate interest. It included the 754 members of the Michigan School Counselors Association, a division of the Michigan Personnel and Guidance Association and affiliate of the Michigan Education Association. The persons in this group were employed in a counseling capacity during the 1977-78 school year.

Sample

The Michigan Personnel and Guidance Association (MPGA) provided the sample for this study. The sample consisted of the 754 counselors who were members of the Michigan School Counselors Association (MSCA), a state division of MPGA and an affiliate of the Michigan Education Association (MEA), during 1977-78. The total MSCA membership was used because, from its mailing list, the sample seemed to provide a good regional representation of counselors throughout the state. Figure 3.1 provides a schematic of the selection procedure for this study.

The sample consisted of 50.4 percent male and 49.6 percent female. The majority of the respondents were married (75%) and fell within the age range of 34-44 (34.4%). Ninety-five percent of the subjects were Caucasian which may have a significant effect on the outcomes of part of the results. A large majority (75%) had at least a Master's degree and a small percentage (5%) had worked in their present job less than a year. Over eighty percent of the sample was employed in a secondary school setting. The sizes of the system where the subjects were employed was fairly evenly distributed, but approximately 50% worked in systems with at least 5000 students. Appendix E provides a summary of characteristics of the sample.

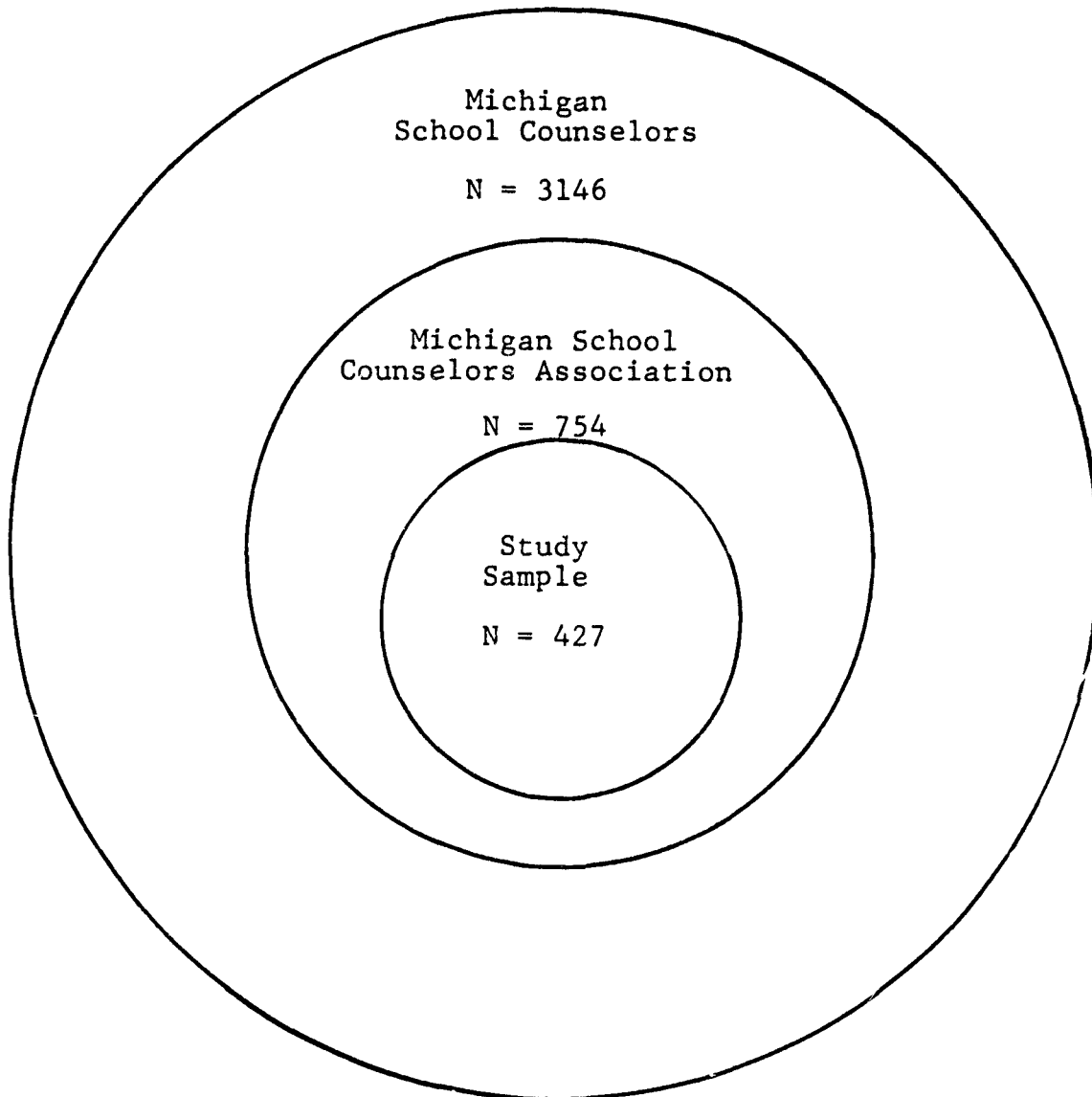


Figure 3.1. Sample selection procedure for the study.

The analysis of data is conducted on all of the respondents from the sample regarding the selected variables of age, marital status, sex, ethnic background, number of children, income level, education level, present occupation, occupational setting, size of system where employed and time in present job.

Instrument Selection

Two questionnaires were used in carrying out this study. To measure counselor job satisfaction, the Job Description Index (JDI), developed by P. C. Smith, et. al. was used. In Measures of Occupational Attitudes and Occupational Characteristics by Robinson, et. al., the JDI is listed as "the instrument which appears to have the best credentials" of the 13 job satisfaction scales examined. "Lengthy, extensive and competent research went into the construction of this instrument, which had been administered to workers at all organization levels on a nationwide basis" (p. 101).

The instrument has been widely tested with groups which range in diversity, from janitors to secretaries to farmers to bank executives. Corrected split-half internal consistency coefficients are reported to exceed .80 for each of the scales. Hulin (1966) reported evidence of stability over time. In analyzing data for female clerical employees over a 12-month period, Hulin also reported a

correlation of $-.27$ between satisfaction and job turnover.

The JDI consists of 72 items, 18 in each of work supervision and people subscales and nine in each of pay and promotions. Each subscale consists of a list of adjectives or descriptive phrases to which the respondent is asked to reply as follows:

"Y" for Yes - if the item describes present
job - Scored 3 points

"N" for No - if the item does not describe
present job - Scored 0 points

"?" for Undecided - if respondent is
undecided - Scored 1 point

The development of the second questionnaire, which was to measure illnesses and stress, required several steps:

- Step 1. Stress related illnesses had to be identified.
- Step 2. Behavioral responses to stress had to be identified.
- Step 3. Sources of stress for counselors had to be identified.
- Step 4. The stress items which would be incorporated into the instrument had to be grouped.
- Step 5. The instrument had to be designed.
- Step 6. The items which were included in the instrument had to be validated.
- Step 7. Final changes based upon the occurrence of discrepancies noted in the instrument had to be made.

Step 1: Stress related illnesses had to be identified.

Those illnesses which have been linked to stress in individuals were identified from reviews of literature on the topic. Publications which were perused included magazine and journal articles, books, research reports and dissertation studies. The illnesses which were identified from the search included: cancer, high blood pressure, headaches, diabetes, sexual problems, skin problems, urinary tract infections, allergies, back problems, asthma, heart trouble, ulcers and unusual pain. The small size of the list made it unnecessary for selection procedures to determine which illnesses should be used in constructing the questionnaire.

Step 2: Behavioral responses to stress had to be identified. Further examination of the literature on stress revealed behaviors which tend to indicate the presence of stress. The same method outlined in Step 1 was used in carrying out this portion of the development of the instrument. A total of 21 behaviors were found to be most prevalent in the literature and were included in the instrument.

Step 3: Sources of stress for counselors had to be identified. From workshops on stress conducted with school counselors in the State of Michigan, lists of sources of stress for counselors were developed. The original list consisted of 109 stress items which counselors felt had

some effect on them in their jobs.

Step 4: The stress items which would be incorporated into the instrument had to be grouped. This step in the instrumentation process was accomplished by grouping the 109 items into categories to eliminate replication of items. The 109-item list was reduced to 30 categories after the grouping process. Each category was labeled with a short descriptive phrase which was representative of items in that category. The 30-item list was then reviewed by members of the researcher's guidance committee. Discrepancies were determined and corrected.

Step 5: The instrument had to be designed. Illness and stress items which had previously been identified were incorporated into an instrument. Questions to ascertain demographic information were also included in the instrument.

Step 6: The items which were included in the instrument had to be validated. Counselors attending a state conference on counseling were used to validate the stress-illness-job satisfaction questionnaire. They were randomly selected and instructed to complete the instrument.

Step 7: Final changes based upon the occurrence of discrepancies noted in the instrument were made. According to the ease with which counselors could respond to the items and discrepancies which were highlighted, corrections to the instrument were made. The questionnaire, in its

final form, was ready for distribution.

Procedure

A list of persons who belonged to MSCA was obtained from MPGA headquarters. The stress-illness questionnaire (see Appendix C) and the JDI (see Appendix D) were mailed to each of the 754 persons whose names appeared on the list. The questionnaires were accompanied by two cover letters, one from Bill McDonald, President of MSCA (see Appendix B), requesting that MSCA members support the project, and another from the researcher (see Appendix A), providing subjects with directions and purposes for the study. A total of 427 questionnaires were returned, constituting a 57% return rate, making a follow-up mailing unnecessary.

Analysis of data from MSCA respondents was conducted. The data were used to analyze the hypotheses which were stated earlier in Chapter I. Implications from this investigation will be offered to assist counselors, counselor supervisors, administrators and other counseling personnel in their efforts to provide their clientele with the best possible service.

Operational Definitions of Concepts

The following operational definitions are provided for specific concepts and variables which are used in this study:

1. Counselor - Those persons who are members of MPGA and are employed in the state of Michigan in the delivery of human services.

2. Illness - Those maladies whose etiology can at least partially be viewed as stemming from the body's response to stressful events. This variable was operationally defined as a "Yes" - "No" response as to the occurrence of 13 "stress ailments," during two designated time periods.

3. Job Satisfaction - A measure of a counselor's feelings toward his job as measured by five areas of the Job Description Index: pay, promotion, supervision, work and people. A total for each of the five areas was obtained by summing responses of "Y" (yes), "N" (no, and "?" (undecided) to statements which are descriptive of each area.

4. Stress - Any particular situation or action in which a counselor feels he does not have or in which he does not have appropriate responses. It is operationally defined as the degree to which counselors agree or disagree that 30 events are sources of stress for them. A four-point Likert-type scale was used and mean scores were obtained from the responses.

5. Stress Indicators - A list of 21 items of behaviors whose frequency of occurrence suggests the presence of stress in one's life. They are measured on a three-point

scale of occurrence: more often than usual (1), usual (2), less often than usual (3). This measure is taken over two six-month periods.

Proxy Variables

Eleven proxy variables were used in this study.

They are operationally defined in the following manner:

1. Age - the chronological age of the respondent which was categorized in the following manner:
(1) 18-24, (2) 25-34, (3) 35-44, (4) 45-54,
(5) over 55.
2. Marital Status - the connubial state of the respondent. Categories of this variable were coded 1 - single, 2 - married, 3 - separated, 4 - divorced, 5 - widowed.
3. Sex - either of two divisions, female or male, code 1 and 2 respectively, in which people are classified.
4. Ethnic Background - ethnic classification or affiliation classified in the following manner:
1 Caucasian, 2 Black, 3 Spanish surname,
4 Asian, 5 American Indian, 6 other.
5. Number of Children - the number of children each respondent has according to the response provided.

6. Income Level - The annual salary of the respondent.
The following classification was used in responding to the question, "What is your income level?"
1 Below \$10,000, 2 \$10,000-\$14,999, 3 \$15,000-\$19,999, 4 \$20,000-\$24,999, 5 over \$25,000.
7. Level of Education - The highest degree possessed.
Categories of this variable were coded: 1 Bachelor's degree, 2 Master's degree, 3 Specialist degree, 4 Doctorate degree, 5 other.
8. Occupational Setting - The setting in which respondent is employed. Responses were coded:
1 Elementary, 2 Secondary, 3 Private, 4 Public, 5 other.
9. Present Occupation - The job in which respondent works primarily. Categories included: 1 Counselor, 2 Counselor Supervisor, 3 Administrator, 4 Teacher, 5 other.
10. Size of System - Size of system where respondent is employed according to number of students.
This variable was measured by respondent's answer to the question, "By which school system are you employed?" Categories were based upon the State Department of Education's classification for allocation of funds according to school size.
They included: 1 Below 500, 2 500-999,

3 1,000-1,499, 4 1,500-1,999, 5 2,000-2,499,
6 2,500-2,999, 7 3,000-3,499, 8 3,500-3,999,
9 4,000-4,499, 10 4,500-4,999, 11 5,000-9,999,
12 10,000-19,999, 13 20,000-49,999, 14 50,000
 and over.

11. Time in Present Job - Length of time respondent has held present position. Values ranged from 1 to 6. 1 indicates less than one year, 2 (1-5 years), 3 (6-10 years), 4 (11-15 years), 5 (16-19 years), 6 (more than twenty years).

Data Analysis

Research Hypotheses

The hypotheses listed below will be examined during this study:

- HR₁: A negative relationship exists between level of stress and level of job satisfaction in Michigan school counselors.
- HR₂: A positive relationship exists between level of stress and the occurrence of illness in Michigan school counselors.
- HR₃: A negative relationship exists between level of satisfaction and the occurrence of illness in Michigan school counselors.
- HR₄: A significant interaction exists between job satisfaction and stress, such that counselors who are less satisfied and under stress will

experience more illnesses than those counselors who are more satisfied and under less stress.

Tests to be Used

To examine the four hypotheses in this investigation, a series of correlation analyses were computed. Two scores for each of the variables of stress and illness were obtained by summing responses to stress and illness statements over two periods of time. A score for the measure of job satisfaction was obtained by totaling scores on the five subscales of the JDI (work, pay, promotion, supervision and people). Pearson product-moment coefficients of correlation were computed on these scores to examine the relationships between the variables of interest in the first three hypotheses and a two-way analysis of variance (ANOVA) was used to analyze the fourth hypothesis. They were then tested for significance at the .05 critical level.

In addition to the correlation statistic and two-way ANOVA which were used to examine major hypotheses, the one-way analysis of variance (ANOVA) and descriptive statistics were used in providing answers to questions related to the investigation (see Chapter I). The one-way ANOVA was conducted with demographic data (age, marital status, sex, ethnic background, number of children, income level, education level, school setting, present occupation,

size of school system and number of years in present job) being analyzed in respect to the major variables (stress, illness, job satisfaction) of the investigation. ANOVA summary tables were used to display data from these analyses. Tests of significance were analyzed and reported using the .05 level of probability where the ANOVA produced an F-statistic to calculate significance.

A series of summary statistics were used for descriptive purposes in defining the characteristics of the sample used in this study. Results of these analyses are placed in a summary table in Appendix E.

Summary

The population for this study consisted of counselors who were employed in a school setting in the state of Michigan during the 1977-78 school year. The sample drawn from a subset of this population included 427 of the 754 counselors who were members of the Michigan School Counselors Association (MSCA), a division of the Michigan Personnel and Guidance Association (MPGA) and an affiliate of the Michigan Education Association (MEA).

Two instruments were used to obtain the necessary data for the study. The stress-illness scale, a self-made questionnaire, and the Job Descriptive Index by Smith, et. al., were used to measure level of stress, occurrence

of illness and job satisfaction in counselors. The instruments were mailed to the entire sample.

Statistical analysis of data was conducted using the Pearson product-moment coefficient of correlation for three of the four study hypotheses and a two-way analysis of variance for the fourth. They were tested at the .05 level of significance. The analysis of variance (ANOVA) and descriptive statistics were used in analyzing data for questions related to the study. The .05 level of probability was used in the tests of significance.

CHAPTER IV

ANALYSES AND RESULTS

The purpose of this study was to investigate the relationship between stress, illness and job satisfaction in school counselors in Michigan. The findings presented in this chapter are based on the analysis of data collected from a stress-illness questionnaire and the Job Description Index (JDI), to which 427 school counselors responded. This chapter presents the statistical analyses of the data in order to examine the four research hypotheses and related questions.

The analyses and findings are presented in two parts. Part I offers the analysis of the major research hypotheses. Hypotheses 1, 2 and 3 were tested using the Pearson product-moment coefficient of correlation and Hypothesis 4 was tested using the two-way analysis of variance (ANOVA) technique. The .05 level of significance was established as the critical area for accepting or rejecting differences.

In Part II, the analysis of related descriptive data is presented. The one-way analysis of variance (ANOVA) was used to analyze this descriptive data. Also used was descriptive statistics. In the case of the ANOVA,

the .05 level of significance was established as the critical area for analysis.

PART I

Null Hypothesis 1:

There will be no relationship between the level of stress and the level of job satisfaction of school counselors.

Alternate Hypothesis 1a:

The level of stress in school counselors will be negatively related to their level of job satisfaction.

Table 4.1 visually indicates that the level of stress of school counselors correlated significantly and negatively with the level of job satisfaction of school counselors at the .05 level of confidence ($r = -.1943$, $p < .001$). Therefore, the null hypothesis was rejected in favor of the alternate hypothesis.

Table 4.1
Pearson Product-Moment Correlation Coefficient (r)
for Hypotheses 1, 2 and 3^a

	<u>Illness</u>	<u>Job Satisfaction</u>
Stress	.1372*	-.1943*
Illness	-	-.0926*

* $p > .05$

^a $N = 427$

Null Hypothesis 2:

There will be no relationship between the level of stress and the occurrence of illnesses in school counselors.

Alternate Hypothesis 2a:

The level of stress in school counselors will be positively related to the occurrence of illnesses.

An examination of Table 4.1 indicates that the level of stress of school counselors was significantly positively correlated with the occurrence of illness in school counselors at the .05 level of significance ($r = .1372$, $p < .003$).

The null hypothesis, therefore, was rejected in favor of the alternate hypothesis.

Null Hypothesis 3:

There will be no relationship between the occurrence of illnesses and the level of job satisfaction in school counselors.

Alternate Hypothesis 3a:

The occurrence of illnesses in school counselors is negatively related to the level of job satisfaction.

The occurrence of illnesses, as viewed from Table 4.1, correlated significantly and negatively with the level of job satisfaction at the .05 level of significance ($r = -.0926$, $p > .03$). The null hypothesis was therefore rejected in favor of the alternate hypothesis.

Null Hypothesis 4:

There is no interaction effect between job satisfaction and illness such that counselors who are less satisfied and under stress will experience more illnesses than counselors who are more satisfied and under less stress.

Alternate Hypothesis 4a:

A significant interaction exists between job satisfaction and illness such that counselors who are less satisfied and under stress will experience more illnesses than those counselors who are more satisfied and under less stress.

In Table 4.2, the two-way analysis of variance results revealed no significant interaction between stress and job satisfaction such that they are predictive of illness. An F-probability of .195 was not found to be significant at the .05 level of confidence. Therefore, the null hypothesis was not rejected in favor of the alternate hypothesis. Figure 4.1 presents a graphic view of the analysis of this hypothesis.

However, the analysis indicated a significant difference between illness and job satisfaction with an F-probability of .049 at the .05 confidence level. Table 4.3 presents a breakdown of illness by stress and job satisfaction. It revealed that the overall mean score for low job satisfaction ($\bar{x} = 3.59$) was greater than the overall mean score for high job satisfaction ($\bar{x} = 2.12$).

PART II

This section provides answers to the following questions posed by this study:

1. Is there a significant difference between stress, illness or job satisfaction and the age of counselors?

Table 4.2

Two-Way Analysis of Variance of Illness by Stress and Job Satisfaction

Source of Variation	Sums of Squares	df	Mean Square	F	Significance of F
Main Effects					
Stress	25.373	1	25.373	3.385	.067
Job Satisfaction	29.131	1	29.131	3.887	.049*
2-Way Interactions					
Stress - Job Satisfaction	12.635	1	12.635	1.686	.195
Explained	78.772	3	26.257	3.504	.016
Residual	2982.840	398	7.495		
TOTAL	3061.612	401	7.635		

* Significant at $\alpha = .05$

Table 4.3

Breakdown of Illness by Stress by Job Satisfaction

		Job Satisfaction	
		Low	High
Stress	Low	$\bar{x}_{11} = 2.84$ SD = 2.03 N = 25	$\bar{x}_{21} = 2.77$ SD = 1.39 N = 8
	High	$\bar{x}_{12} = 3.70$ SD = 3.15 N = 173	$\bar{x}_{22} = 1.81$ SD = .6551 N = 16
		$\bar{X}_{LJS} = 3.59$	$\bar{X}_{HJS} = 2.12$

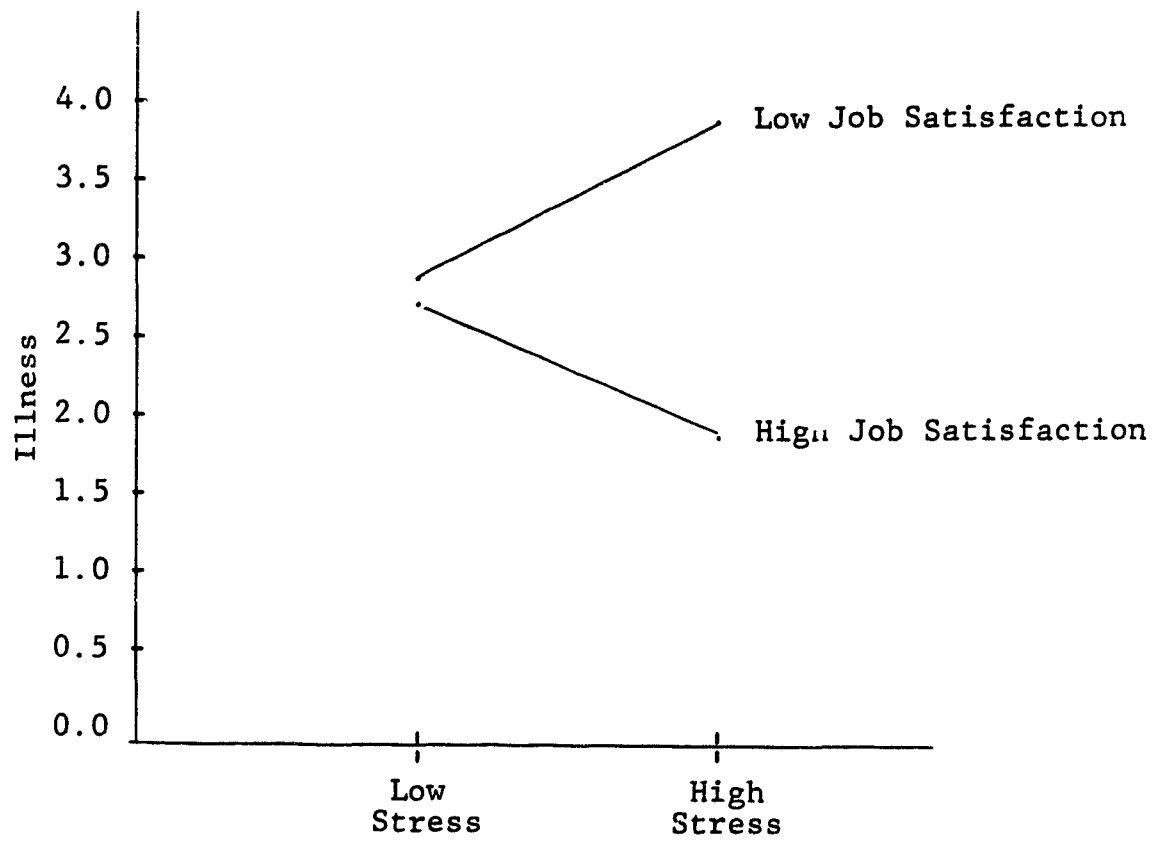


Figure 4.1. Graphic presentation of the interaction of Job Satisfaction and Stress on Illness.

2. Is there a significant difference between stress, illness or job satisfaction and the marital status of counselors?
3. Is there a significant difference between stress, illness or job satisfaction and the sex of counselors?
4. Is there a significant difference between stress, illness or job satisfaction and the ethnic background of counselors?
5. Is there a significant difference between stress, illness or job satisfaction and the number of children of counselors?
6. Is there a significant difference between stress, illness or job satisfaction and the income of counselors?
7. Is there a significant difference between stress, illness or job satisfaction and the level of education of counselors?
8. Is there a significant difference between stress, illness or job satisfaction and the occupation of counselor?
9. Is there a significant difference between stress, illness, or job satisfaction and the level of the school where counselors are employed?

10. Is there a significant difference between stress, illness or job satisfaction and the affiliation of the school where a counselor is employed?
11. Is there a significant difference between stress, illness or job satisfaction and the size of the school system?
12. Is there a significant difference between stress, illness or job satisfaction and the length of time in the job as counselor?
13. What area of the counselor's job was most satisfying?
14. What area of the counselor's job was least satisfying?
15. What area of the counselor's job was most stressful?
16. What area of the counselor's job was least stressful?
17. In which stress-linked behaviors were counselors more prone to engage?
18. Was the first or second half of the year more stressful for counselors?

Questions 1 - 12

Table 4.4 presents the F-probabilities from the one-way ANOVA techniques employed to provide answers to questions 1 - 12. Complete ANOVA tables for the analyses can be found in Appendices F, G and H. Three of the analyses

Table 4.4

F-Probabilities for One-Way Analysis of Variance of
Dependent Variables by Demographic Variables

	Stress	Illness	Job Satisfaction
Age	.2028	.3041	.0638
Marital Status	.0323*	.1666	.0100*
Sex	.3686	.5052	.4337
Ethnic Background	.1703	.8924	.4781
No. of Children	.0189*	.9082	.9412
Income	.2165	.9443	.5713
Level of Education	.5756	.2323	.1706
School Level	.6220	.3374	.6856
School Affiliation	.0997	.5211	.4938
Occupation	.2091	.3648	.2723
Size of School System	.2171	.1337	.5637
Time in Job	.8614	.9144	.6751

* $p < .05$

indicate a significant difference beyond the .05 level. They are: #2 - stress and marital status (.0323); #2 - job satisfaction and marital status (.0100); and #5 - stress and number of children (.0189). Further analyses of these significant differences by use of the Scheffe post hoc comparison method revealed that, for stress and marital status, the subgroups single and married, there was a significant difference. Mean scores for the two groups were 2.2917 and 2.5133, respectively. For stress and number of children, the source of significance is not exactly clear, but examination of the means and standard deviations for the subgroups suggests that a significant difference between the group with 0-1 children ($\bar{x}$ = 2.4250, SD = .4938) and the group with 5-7 children ($\bar{x}$ = 2.2270, SD = .7887) is more probable. In the case of job satisfaction and marital status, there is a significant difference between being separated or divorced ($\bar{x}$ = 26.9938) and being widowed ($\bar{x}$ = 34.0545). Tables 4.5, 4.6 and 4.7 present the multiple range tests of the Scheffe procedure for each of the significant cases.

Question 13: What area of the counselor's job is most satisfying?

Question 14: What area of the counselor's job is least satisfying?

In response to Question 13, data from the JDI indicated that of the five measures of job satisfaction, counselors are more satisfied with supervision ($\bar{x}$ = 41.395).

Table 4.5

Scheffe Post Hoc Comparison of Stress and Marital Status*

Group	Married	Widowed	Separated/ Divorced	Single
Mean	2.2917	2.3121	2.4274	2.5133
SD	.5872	.4254	.4017	.5316

Table 4.6

Scheffe Post Hoc Comparison of Stress and Number of Children

Group	5-7 Children	2-4 Children	0-1 Children
Mean	2.2270	2.2717	2.4250
SD	.7887	.5975	.4938

Table 4.7

Scheffe Post Hoc Comparison of Job Satisfaction and Marital Status*

Group	Separated/ Divorced	Single	Married	Widowed
Mean	26.9938	29.8754	32.3046	34.0545
SD	11.7144	9.3282	9.7060	4.8051

* Categories outside brackets indicate significant differences

For Question 14, counselors responded such that they indicated the least satisfaction with promotion ($\bar{x} = 16.374$). Table 4.8 lists the mean and standard deviations for each of the five measures of job satisfaction on the JDI.

Question 15: What area of the counselor's job is most stressful?

Question 16: What area of the counselor's job is least stressful?

Mean scores were calculated for the 30 sources of stress as listed on the stress-illness questionnaire. The mean scores indicated that, in response to Question 15, counselors viewed "too much paperwork" as the number one stressor with a mean score of 2.99. For Question 16, counselors responded such that the item causing the least amount of stress for them was "the quality of the physical facilities" with a mean score of 1.71. Appendix I contains the list of 30 stressors and their mean scores. Additional stressors added by counselors can be found in Appendix G.

Question 17: In which stress-linked behaviors were counselors more prone to engage?

Question 18: Was the first or second half of the year more stressful for counselors?

For purposes of analyzing the above two questions, the twenty-one stress-linked behaviors were categorized into four areas for each of the two time periods. The areas included: physical effects, drug usage, behavioral effects and use of consulting services. Items in each category

Table 4.8

Mean Scores for the Five Scales of the Job Description Index

=====		
Scale	Mean	SD
Work	39.211	8.454
Pay	29.101	12.571
Promotion	16.374	12.927
Supervision	41.395	12.380
People	41.234	12.229

from the questionnaire are listed in Appendix K. The mean score for the use of consulting services during Period I ($\bar{x} = 1.996$) was greater than the mean scores for the other categories at any other time. In each of the areas counselors indicated a greater indulgence in stress-linked behaviors during the second half of the year (March - August) as opposed to the first half of the year (September - February). Table 4.9 presents the results of the four categories for the two time periods involved.

SUMMARY

The data from the stress-illness questionnaire and the Job Description Index were used to analyze the four major hypotheses and related questions of the study. Pearson product-moment correlation coefficients conducted on three of the major hypotheses concluded that:

1. There is a negative relationship between the level of stress and the level of job satisfaction in school counselors.
2. There is a positive relationship between the level of stress and the occurrence of illnesses in school counselors.
3. There is a negative relationship between the level of job satisfaction and the occurrence of illnesses in school counselors.

Table 4.9

Mean Scores for Stress-Linked Behaviors of Counselors

=====			
Category	Period*	Mean Score	SD

Physical Effects	I	1.920	.400
Physical Effects	II	1.968	.431
Drug Usage	I	1.969	.416
Drug Usage	II	1.974	.422
Behavioral Effects	I	1.960	.414
Behavioral Effects	II	1.981	.426
Use of consulting services	I	1.977	.437
Use of consulting services	II	1.985	.442

*Period I: September 1977 to February 1978
 Period II: March 1978 to August 1978

A two-way analysis of variance was used to examine the fourth hypothesis. This technique, along with a breakdown of mean scores for illness by stress by job satisfaction, concluded that there is not a significant interaction between job satisfaction and illness such that those counselors who are less satisfied with their jobs and under stress will experience more illnesses than those counselors who are more satisfied and under less stress.

One-way analysis of variance (ANOVA) techniques and descriptive statistics were used to examine questions related to the study. For ANOVA results which indicated significance, the Scheffe post hoc comparisons of mean scores was conducted. The results from these analyses can be summarized as follows:

1. There is a significant difference between stress and marital status, particularly between stress and being single or married.
2. There is a significant difference between stress and number of children, particularly between stress and having 0-1 children or 5-7 children.
3. There is a significant difference between job satisfaction and marital status, particularly between job satisfaction and being separated/divorced or widowed.

4. Mean scores for the job satisfaction components of pay, promotion, people and work were lower than for supervision.
5. The mean score for promotion was the lowest of the five aspects of job satisfaction.
6. The mean score for too much paperwork was the greatest for sources of stress in the counselor's job.
7. The mean score for the quality of the physical facilities was the lowest for sources of stress in the counselor's job.
8. The mean score for use of consulting services was greatest for stress-linked behaviors in which counselors engaged.
9. Mean scores for each category of stress-linked behaviors during Period II were higher than during Period I.

CHAPTER V

SUMMARY AND RECOMMENDATIONS

The final chapter of this report includes a review of the problem under investigation, the procedures followed, a literature summary, the major findings, limitations of the findings and a presentation of conclusions, with implications for counselors and future research.

Review of the Problem

The purposes of this study were four-fold: (a) to examine the relationship between stress and job satisfaction in school counselors in Michigan; (b) to examine the relationship between stress and illness in school counselors in Michigan; (c) to examine the relationship between job satisfaction and illness in school counselors in Michigan; and (d) to measure the impact of stress and job satisfaction on the occurrence of illness in Michigan school counselors.

Over the past ten years, Americans have experienced a dramatic increase in the occurrence of certain types of illnesses, despite the fact that medical technology has virtually eliminated most of the infectious diseases

that plagued the 19th and early 20th centuries. Diseases such as coronary heart disease, strokes, and cancer are among those that are on the increase and whose etiology can be traced back to chronic stress. Stress is a significant factor in today's world, especially in the world of work. Chronic stress can manifest itself in the work situation through desirable behaviors of high absenteeism, job turnovers, health problems, alcohol and drug abuse, and personality clashes.

Counselors are a special group of workers who have the major responsibility of assisting others through the delivery of human services. Persons in this occupational area can ill-afford to allow the presence of stress in their own lives to affect the clientele they serve. Consequently, they must take account of themselves and their performances if they are to provide efficient and effective services.

More importantly, counselors in the educational arena have an even greater responsibility because of their special clientele, children. Children are the adults of tomorrow. Their futures will be even more devastating if they are not provided with competent guidance in tackling mounting educational, vocational, social and personal problems.

Job satisfaction (or dissatisfaction) of counselors needs to be reckoned with because it is generally agreed

that the less satisfied one is with his job, the more stressful the job becomes. Counselors who are provided with the proper training and opportunities to express areas of job discontent can provide supervisors and administrators with a nucleus of information for improving the functioning of counselors and counseling departments.

Eventually, prolonged stress and continued job dissatisfaction will lead to the occurrence of illnesses. The illnesses may be physical or psychological, but the strain of the situation will take affect in some form.

Counselors must be as comfortable as possible in their jobs if they are to perform satisfactorily. This would include being satisfied with their jobs, being under minimal stress and being physically and mentally fit to handle job demands.

The literature in the area of stress and illness is very abundant and diverse. Other factors such as job satisfaction and demographic variables are virtually nonexistent in the literature in relation to stress. The literature is generally supportive of the notion that relationships do exist between stress, illness and job satisfaction. In many of these studies, coronary heart disease and hypertension are the most frequently studied diseases in the list of over 80 stress-related illnesses.

Studies cited in the literature have encountered difficulty in their methodologic approach, research findings

or complete understanding of the results. The difficulty is attributed to a lack of congruency in the definitions of key words such as stress and job satisfaction. The utilization of diversified techniques in conceptualizing and measuring stress, illness and job satisfaction has also contributed to the difficulty. However, the research has proven to be a sound basis on which to focus other research efforts in the area. This study was one such effort, geared toward a specific occupational group, school counselors.

For this study, the general population consisted of persons who were employed as school counselors in the state of Michigan. A subset of this population served as the population of immediate interest. This subset included the 754 members of the Michigan School Counselors Association (MSCA) who were employed in a counseling capacity during the 1977-1978 school year.

Two instruments were used in this study to provide the necessary data. To measure stress and illness, a self-made questionnaire, containing demographic information, stress, stress-linked behavior and illness scales was developed. To measure job satisfaction, the Job Description Index (JDI), developed by Smith, et. al., was used. This instrument contains five scales of job satisfaction: work, pay, promotion, supervision and people. These

instruments, along with a supportive cover letter from the president of MSCA, were mailed to each of the persons on the MSCA mailing list. Four hundred and twenty-seven persons responded, constituting a 57% return rate.

The analysis of data included the use of the Pearson product-moment correlation coefficient for testing of the first three hypotheses and a two-way analysis of variance (ANOVA) for the fourth hypothesis. Each hypothesis was tested for significance at the .05 critical level. In addition, one-way ANOVA techniques and descriptive statistics were used to provide answers to questions related to the study. The ANOVA techniques tested for significant differences between the demographic variables and the major variables of the study. Again, the .05 level of significance was used to analyze the results of the ANOVA procedures. For the relationships that indicated a significant difference, the Scheffe post hoc comparison technique was conducted to localize the area of significance. All statistical analyses conducted in this study were analyzed by the Statistical Package for the Social Sciences (SPSS) on computers at the Computer Center at Michigan State University.

Conclusions

The results of this study can be summarized in the following manner:

1. The level of stress in school counselors is negatively related to their level of job satisfaction.
2. The level of stress in school counselors is positively related to the occurrence of illnesses.
3. The occurrence of illnesses in school counselors is negatively related to the level of job satisfaction.
4. There is not a significant interaction between stress, job satisfaction and illness such that school counselors who are less satisfied and under stress will experience more illnesses than those counselors who are more satisfied and under less stress.
5. There is a significant difference between stress and marital status of school counselors, such that single counselors experience more stress than married counselors.
6. There is a significant difference between stress and number of children such that counselors with more children experience less stress than counselors with fewer children.
7. There is a significant difference between job satisfaction and marital status such that

school counselors who are separated or divorced are less satisfied in their jobs than counselors who are widowed.

8. The area of supervision was highest of the five areas of job satisfaction.
9. The area of promotion was lowest of the five areas of job satisfaction.
10. Too much paperwork was the greatest source of stress for counselors.
11. Quality of physical facilities was the least source of stress for counselors.
12. The use of consulting services was greatest for stress-linked behaviors engaged in by counselors.
13. Period II (March - August) was more stressful than Period I (September - February) for school counselors.

The results of this investigation provided support to the hypothesis that stress and job satisfaction are negatively related. For the particular group under study, school counselors, it was found that the more dissatisfied a counselor was with his job, the more stressful was the job. This is in concurrence with the limited research which has been conducted in the area of stress and job satisfaction. It also seems to have practical significance, considering that job dissatisfaction has oftentimes been

indicated as a source of stress.

Further analysis of the data suggested that stress and illness are positively related. The school counselor sample in the study demonstrated characteristics in the occurrence of illnesses which were consistent with the numerous studies previously conducted by various other researchers over the years which concur that the more stress experienced by persons, the more prone for illness they become.

Further supportive evidence obtained in the analysis of data in this study substantiated previous research findings that negatively relate job satisfaction and illness occurrences. It was found that school counselors who were more satisfied in their job experienced the occurrence of fewer illnesses.

Though analysis of the data did not indicate any significant interaction between stress, illness and job satisfaction, a close examination of the relationship indicated that they approached significance. Furthermore, the breakdown of the dependent variable illness by the independent variables stress and job satisfaction presented a questionable result whereby counselors who indicated a high level of stress and high level of job satisfaction experienced the fewest occurrences of illnesses. This condition is not in keeping with previous research findings in the area. At present, no account can be provided for this occurrence.

The analysis of variance conducted on all 12 of the demographic variables for each of the three major variables indicated significant differences for three of the analyses. The three significant relationships suggested that the stress level of single counselors is significantly greater than for married counselors; the stress level for counselors with the greatest number of children (5-7) is significantly lower than that for counselors with fewer or no children; job satisfaction is higher for counselors who are widowed than for counselors who are separated or divorced.

Concurring with a vast majority of research into job satisfaction, this study concluded that school counselors are most satisfied with the supervision they receive on their jobs. Similarly, several studies mentioned relationships with co-workers as falling in close proximity to supervision. This study found that school counselors ranked the category people in the job as a close second to supervision, with only a .161 difference between the two categories. Falling at the bottom of the list in this study and in others reviewed was the category promotion or opportunity for advancement.

Overall, data from this study strongly support the data found in the literature which related stress, illness and job satisfaction. In doing so, this study implies that stress is an identifiable factor that can be used to

isolate areas of job satisfaction for school counselors. Also, illness occurrences are a definite happening which can be used to signal fallacies of a counseling system.

In reviewing the results previously discussed, one can note the practicality of the significance for counselors in the schools. Recognition of the presence of stress, illness and/or job dissatisfaction is a beginning step in improving the services of counselors and counseling departments. It is the role of school counselors to provide students with supportive services which will facilitate healthy development in their academic and personal lives. Counselors must therefore be prepared, physically and mentally, to assist students in these and other areas of need.

Systematic evaluation of counseling systems will provide counselors and counseling administrators with the information necessary for improving and maintaining an effective system. The evaluation process will assure that efforts which can be made to enhance counselors' performances will be recognized and hopefully, addressed. Counselors who work within systems that display interest in their well-being are apt to be more responsive to the goals of the system and to the clientele whom they serve.

A counselor who is under minimal stress will be more satisfied with the work he has to do and less prone to illnesses which plague stress-ridden individuals. He

will be able to better handle any problems that arise during the course of his work and better able to make quality decisions that will benefit all concerned. Therefore, it is very necessary that counselors recognize the effects that stress in their lives has upon the jobs they have partaken.

Counselors who are constantly under stress, continually ill and displeased with their jobs can affect an entire counseling staff. Counseling administrators are in positions to make decisions which can impact upon the departments they supervise. At a time when ever-increasing stressors are complicating the lives of individuals, counselors can ill-afford to fall victim to the pressures of daily living if they are to service a population which demands undaunted attention. It is the contention of this researcher that the results from this study are quite significant for school counselors in the state of Michigan.

Limitations

The fact that the particular population used in this study was not diversified enough in relation to racial composition limits its generalizability to counseling groups with significantly different racial makeup.

One possible factor that may have contributed to the disproportionate racial composition of the sample is

the fact that MSCA, and more particularly MPGA, has significantly fewer nonwhite than white members.

Implications for Counselors

Data from this research strongly support most of the data found in the literature which deals with stress, illness and job satisfaction. The basic difference between this study and others which have been conducted is that this study has definite implications for a specific population, school counselors, while others have implications for general populations. The literature suggests that very little effort has been made in (1) delineating stressors for counselors; (2) devising stress-reduction plans of action for counseling departments; (3) analyzing counseling departments by assessing the mental and physical readiness of counselors. It is within these areas that the researcher feels there is much a counselor can do to help effect the smooth operation of a counseling program and of the counselor himself.

This study provides data which indicate certain strategic points which may be incorporated into an intervention plan for facilitating the professional development of counselors. The intervention plan must take into account the total environment of the counselor--personal, societal, familial, educational and occupational. Gunnings (1976) developed an intervention strategy which provides

a guideline for evaluation of counseling departments and takes the total environment of the counselor into consideration. He proposes a Systemic approach to the situation which is defined as "the art of intervening into the lives of individuals through systems understanding and modification" (Gunnings, 1976, p. 2). He lists eight basic assumptions underlying the evaluation process from a Systemic viewpoint. They include:

1. The environment is the key factor in determining man's attitudes, values and behavior.
2. The client's (counselor's) behavior is a symptom of the system's problem.
3. The cause of the client's (counselor's) symptom can be traced to the negative effect of social systems on the client's (counselor's) affective and cognitive function.
4. Systems change is always possible, however, it is often a long term process.
5. Systems change is a continuous process because of the dynamic nature of social systems.
6. The system with the problem must be changed in order for the problem to be eliminated.
7. If the problem has been correctly identified, elimination of the problem results in elimination of the symptom.
8. Although clients (counselors) are not responsible for the existence of the problem, they do have control over their response to the problem.

(Gunnings, 1976, p. 2)

Through the Systemic approach to analyzing counseling departments, counselors will be able to identify the causes of their symptoms (stress, illness, job dissatisfaction) through recognition of the influence of selected environmental factors on their psychological functioning as reflected in their behavior. They will then be able to develop and implement problem solving strategies and techniques that will eliminate or reduce the barriers to their achievement of desired goals. The end result of the Systemic approach is to raise the counselor's level of functioning, affectively and cognitively, such that he is able to work towards improving counseling systems which are not functioning appropriately and develop effective coping mechanisms for handling stress until such changes actually occur.

Appendix L outlines the seven steps of the Systemic Approach which may be employed by counseling administrators to bring about efficacious results from their employees. In this process, measures of stress, illness and job satisfaction of counselors can occur in step one. Scales such as the ones used in this study can provide counseling department heads with the data necessary to assess the symptoms of stress, illness and job satisfaction in its staff.

The aforementioned strategies can be incorporated into already existing counseling departments through

in-service training, workshops or staff development series. However, efforts to prepare counselors for handling situations which are stress-ridden, should occur at a much earlier time, during their training. Classes dealing with stress management should be incorporated into the regular curriculum of students who are preparing to become future school counselors. Students' curriculum should be didactic in nature, incorporating both theory and application through direct placements in practicum situations. By doing this, counselor trainers will be providing students with the necessary framework for becoming counselors who understand the intricacies of the world in general. They will be able to make better use of environmental factors in their lives and in the lives of their clients.

Implications for Future Research

The need for further investigations into factors affecting operative functioning of counseling departments is unlimited. Further studies involving development and refinement of instruments for measuring these factors are needed. Even though a great deal of interest is continually being focused in this direction, several specific areas are being identified as being particularly relevant for future research. They include:

1. Research efforts should focus upon more clearly refining stress-illness questionnaires for counselors.

2. This study should be replicated within particular school systems to determine the fallacies of a particular counseling program.
3. This study should be replicated with populations from different types of school systems, i.e., urban-rural-suburban, desegregated-integrated-segregated, to determine if there are differences in counselor well-being.
4. Research efforts should be developed to establish norms for educational personnel (counselors, administrators, etc.) for the Job Description Index.
5. Experiments should be designed which establish experimental groups of counselors who are trained to handle stressful situations to determine the effect of stress management training.
6. Research efforts should be developed to determine the influence of the Systemic Approach of analysis on the effective operation of counseling departments.
7. Research efforts should be developed to replicate this study with populations of school counselors from varied racial backgrounds to determine the effect of

stress, illness and job satisfaction on the groups.

8. This study should be replicated to further examine the fourth hypothesis, especially the breakdown of illness by stress and job satisfaction to determine if counselors are in fact, a special group who experience fewest illnesses when working in high stressed situations and with high job satisfaction.

In retrospect, this study was an attempt to broaden the base of present research in the area of improving school counselor functioning through recognition of factors such as stress, illness and job dissatisfaction which may impinge upon the effectiveness of counseling departments. With this information and future research efforts in the area, counseling personnel will be able to analyze and restructure their departments to better meet the needs of those who work therein and of those who seek counseling services. The ultimate goal of this research project is to provide counselors with strategies for assessing themselves and their jobs in order to insure that children are provided with quality services which can serve to enhance their total living experiences.

APPENDICES

APPENDIX A

APPENDIX A

TO: M.P.G.A. School Counselors

FROM: Beverly A. Parker *SAP*
Doctoral Candidate
Michigan State University

DATE: October 18, 1978

Many guidance and counseling programs are keenly interested in strengthening the effectiveness of their counselors. The relationship between stress and other variables which may impact upon counselors and their jobs is one area of research which is gaining prominence and can provide counseling programs with a multiplicity of information for improving their functioning.

In an effort to secure more information concerning factors which may impinge upon the effective and efficient performance of school counselors, I am requesting that you complete the enclosed questionnaires and return them to me by Friday, October 27, 1978. A self-addressed stamped envelope is enclosed for your convenience in returning the information.

If you are interested in receiving the results from this research project, please place your name and mailing address on the back side of the self-addressed stamped postcard which is also enclosed.

Your input and responses can be invaluable to opening doors for better counselor self-understanding and for providing information to counseling programs for improving their operations.

Thank you in advance for your cooperation.

bap

Enclosures: Letter from Bill McDonald
Questionnaire (Goldenrod color)
Job Descriptive Index
Self-addressed stamped envelope
Self-addressed stamped postcard

APPENDIX B

APPENDIX B

michigan school counselor association

P.O. Box 673

East Lansing, Michigan 48823



State Division

American School Counselor Association

Michigan Personnel and Guidance Association

An Affiliate of the

Michigan Education Association

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Michigan Dept. of Education
Student Financial Aids
Lansing, Michigan 48909

Manfred Tatzmann
Human Services Network
P.O. Box 30037
Lansing, Michigan 48909

Dear Professional Counselor:

The Michigan School Counselor Association supports research that has direct application to practicing school counselors. Moreover, M.S.C.A. encourages school counselors to become involved in research. Sometimes it is difficult for school counselors to find the available time to do active research, but it can be a valuable ingredient to our work.

One particular area of research that needs to be investigated is the relationship between stress and the work of the school counselor. At various times in our work as school counselors, we have all been under stress. The stress may have come because of internal or external pressures. How we learn to cope with stress is of real importance to school counselors.

To help identify how counselors cope with stress and what things cause stress is the major focus of the research that will be done by Beverly Parker. Ms. Parker is completing her doctoral dissertation at Michigan State University.

I hope you will take the time to complete the questionnaires.

Sincerely,

Bill McDonald

Bill McDonald
President
M.S.C.A.

APPENDIX C

APPENDIX C

CODE NUMBER _____

DIRECTIONS

Please circle the number for your responses to the following questions and fill in the blank when it is appropriate.

1. What is your age?
 1. 18-24
 2. 25-34
 3. 35-44
 4. 45-54
 5. 55 and over
2. What is your marital status?
 1. Single
 2. Married
 3. Separated
 4. Divorced
 5. Widowed
3. What is your sex?
 1. Female
 2. Male
4. What is your ethnic background?
 1. Caucasian
 2. Black
 3. Spanish Surname
 4. Asian
 5. American Indian
 6. Other _____
5. How many children do you have?

6. What is your income level?
 1. Below \$10,000
 2. \$10,000-\$14,999
 3. \$15,000-\$19,999
 4. \$20,000-\$24,999
 5. Over \$25,000
7. What level of education have you completed?
 1. Bachelor's degree
 2. Master's degree
 3. Specialist degree
 4. Doctorate degree
 5. Other _____
8. In which type of school do you work? (Circle all which apply)
 1. Elementary
 2. Secondary
 3. Private
 4. Public
 5. Other _____
9. What is your present occupation?
 1. Counselor
 2. Counselor Supervisor
 3. Administrator
 4. Teacher
 5. Other _____
10. By which school system are you employed?

11. How long have you held your present position?
 1. Less than one year
 2. One to five years
 3. Six to ten years
 4. Eleven to fifteen years
 5. Sixteen to nineteen years
 6. More than twenty years

Indicate the frequency of the occurrence of the following behaviors you exhibited during Period I (September 1977-February 1978) and Period II (March 1978-August 1978) by selecting choices 1 - 3 for your responses.

- 1 - More often than usual
- 2 - Usual
- 3 - Less often than usual

<u>Behavior</u>	<u>Period I</u>			<u>Period II</u>		
12. Loss of appetite	1	2	3	1	2	3
13. Upset stomach	1	2	3	1	2	3
14. Very nervous	1	2	3	1	2	3
15. Trembling hands	1	2	3	1	2	3
16. Nightmares	1	2	3	1	2	3
17. Smoking	1	2	3	1	2	3
18. Use of tranquilizers	1	2	3	1	2	3
19. Use of amphetamines	1	2	3	1	2	3
20. Use of marijuana	1	2	3	1	2	3
21. Buying spree	1	2	3	1	2	3
22. Shortness of breath	1	2	3	1	2	3
23. Dizzy spells	1	2	3	1	2	3
24. Loss of weight	1	2	3	1	2	3
25. Cold sweats	1	2	3	1	2	3
26. Tired feeling	1	2	3	1	2	3
27. Drinking alcohol	1	2	3	1	2	3
28. Consulted with a doctor	1	2	3	1	2	3
29. Consulted with a psychologist, psychiatrist, or counselor	1	2	3	1	2	3
30. Consulted with clergy	1	2	3	1	2	3
31. Absent from work due to illness	1	2	3	1	2	3
32. Nailbiting	1	2	3	1	2	3

Indicate if you discovered that you had any of the following ailments during Period I (September 1977-February 1978) and Period II (March 1978-August 1978) by selecting choices 1 or 2 for your responses.

1 Yes

2 No

	<u>Period I</u>		<u>Period II</u>	
33. Hypertension or high blood pressure	1	2	1	2
34. Skin problems	1	2	1	2
35. Allergies	1	2	1	2
36. Sexual problems	1	2	1	2
37. Ulcers	1	2	1	2
38. Asthma	1	2	1	2
39. Heart trouble	1	2	1	2
40. Urinary tract infections	1	2	1	2
41. Diabetes	1	2	1	2
42. Cancer	1	2	1	2
43. Unusual pain	1	2	1	2
44. Back problems	1	2	1	2
45. Migraine headaches	1	2	1	2

To what extent do you agree or disagree that each of the following statements adequately describes sources of stress or tension for you in your particular job? Indicate your response by using the following scale in relaying your reply:

- 1 - Strongly Disagree
- 2 - Disagree
- 3 - Agree
- 4 - Strongly Agree

- | | | | | |
|--|---|---|---|---|
| 1. Conflicting role definitions between counselor and administrator | 1 | 2 | 3 | 4 |
| 2. Non-counseling responsibilities (substitute teaching, hall monitoring, etc.) | 1 | 2 | 3 | 4 |
| 3. Incongruence between counselor training and actual job responsibilities | 1 | 2 | 3 | 4 |
| 4. Inability to perform certain tasks due to lack of competency | 1 | 2 | 3 | 4 |
| 5. Inadequate physical facilities (no privacy, poor space allotment, etc.) | 1 | 2 | 3 | 4 |
| 6. Quality of physical facilities (barred windows, graffiti, police or guards present) | 1 | 2 | 3 | 4 |
| 7. Excessive caseload | 1 | 2 | 3 | 4 |
| 8. Too much paperwork | 1 | 2 | 3 | 4 |
| 9. Lack of time due to excessive workload | 1 | 2 | 3 | 4 |
| 10. Insufficient program funding | 1 | 2 | 3 | 4 |
| 11. Inadequate program support (from administrators, counselors, teachers, parents) | 1 | 2 | 3 | 4 |
| 12. Lack of communication from administrators to counselors | 1 | 2 | 3 | 4 |
| 13. Lack of communication between staff and teachers | 1 | 2 | 3 | 4 |
| 14. Meeting with parents | 1 | 2 | 3 | 4 |
| 15. Parental apathy | 1 | 2 | 3 | 4 |

- | | | | | |
|---|---|---|---|---|
| 16. Mood of the environment (sexist, racist, isolated, apathetic, etc.) | 1 | 2 | 3 | 4 |
| 17. Lack of staff commitment to the counseling process | 1 | 2 | 3 | 4 |
| 18. Personal problems (family, illness, death, etc.) | 1 | 2 | 3 | 4 |
| 19. Ineffective leadership from administrators | 1 | 2 | 3 | 4 |
| 20. Lack of appreciation shown through rewards or supervisor feedback | 1 | 2 | 3 | 4 |
| 21. Feeling of lack of success | 1 | 2 | 3 | 4 |
| 22. Lack of resources needed for performing job completely (referral agencies, information, etc.) | 1 | 2 | 3 | 4 |
| 23. Inadequate pay | 1 | 2 | 3 | 4 |
| 24. Required attendance at meetings | 1 | 2 | 3 | 4 |
| 25. Being fired | 1 | 2 | 3 | 4 |
| 26. Limited job advancement opportunities | 1 | 2 | 3 | 4 |
| 27. Job security in face of funding cutbacks | 1 | 2 | 3 | 4 |
| 28. Intraschool politics | 1 | 2 | 3 | 4 |
| 29. Unrealistic expectations from students, parents, community members, teachers, administrators | 1 | 2 | 3 | 4 |
| 30. Interference from persons unrelated to the counseling process | 1 | 2 | 3 | 4 |

Please list below any other stressors which have not been included and rate them using the same scale as for the above listed items.

- | | | | | |
|-----------|---|---|---|---|
| 31. _____ | 1 | 2 | 3 | 4 |
| 32. _____ | 1 | 2 | 3 | 4 |
| 33. _____ | 1 | 2 | 3 | 4 |
| 34. _____ | 1 | 2 | 3 | 4 |
| 35. _____ | 1 | 2 | 3 | 4 |

APPENDIX D

APPENDIX D

JOB DESCRIPTION INDEX

Each of the five scales was presented on a separate page.

The instructions for each scale asked the subject to put "Y" beside an item if the item described the particular aspect of his job (e.g., work, pay, etc.), "N" if the item did not describe that aspect, or "?" if he could not decide.

The response shown beside each item is the one scored in the "satisfied" direction for each scale.

<u>Work</u>		<u>Supervision</u>		<u>People</u>	
<u>Y</u>	Fascinating	<u>Y</u>	Asks my advice	<u>Y</u>	Stimulating
<u>N</u>	Routine	<u>N</u>	Hard to please	<u>N</u>	Boring
<u>Y</u>	Satisfying	<u>N</u>	Impolite	<u>N</u>	Slow
<u>N</u>	Boring	<u>Y</u>	Praises good work	<u>Y</u>	Ambitious
<u>Y</u>	Good	<u>Y</u>	Tactful	<u>N</u>	Stupid
<u>Y</u>	Creative	<u>Y</u>	Influential	<u>Y</u>	Responsible
<u>Y</u>	Respected	<u>Y</u>	Up-to-date	<u>Y</u>	Fast
<u>N</u>	Hot	<u>N</u>	Doesn't supervise enough	<u>Y</u>	Intelligent
<u>Y</u>	Pleasant	<u>N</u>	Quick-tempered	<u>Y</u>	Easy to make
<u>Y</u>	Useful	<u>Y</u>	Tells me where I stand	<u>N</u>	enemies
<u>N</u>	Tiresome	<u>N</u>	Annoying	<u>N</u>	Talk too much
<u>Y</u>	Healthful	<u>N</u>	Stubborn	<u>Y</u>	Smart
<u>Y</u>	Challenging	<u>Y</u>	Knows job well	<u>N</u>	Lazy
<u>N</u>	On your feet	<u>N</u>	Bad	<u>N</u>	Unpleasant
<u>N</u>	Frustrating	<u>Y</u>	Intelligent	<u>N</u>	No privacy
<u>N</u>	Simple	<u>Y</u>	Leaves me on my own	<u>Y</u>	Active
<u>N</u>	Endless	<u>Y</u>	Around when needed	<u>N</u>	Narrow interests
<u>Y</u>	Gives sense of accomplishment	<u>N</u>	Lazy	<u>Y</u>	Loyal
				<u>N</u>	Hard to meet
<u>Pay</u>		<u>Promotions</u>			
<u>Y</u>	Income adequate for normal expenses	<u>Y</u>	Good opportunity for advancement		
<u>Y</u>	Satisfactory profit sharing	<u>N</u>	Opportunity somewhat limited		
<u>N</u>	Barely live on income	<u>Y</u>	Promotion on ability		
<u>N</u>	Bad	<u>N</u>	Dead-end job		
<u>Y</u>	Income provides luxuries	<u>Y</u>	Good chance for promotion		
<u>N</u>	Insecure	<u>N</u>	Unfair promotion policy		
<u>N</u>	Less than I deserve	<u>N</u>	Infrequent promotions		
<u>Y</u>	Highly paid	<u>Y</u>	Regular promotions		
<u>N</u>	Underpaid	<u>Y</u>	Fairly good chance for promotion		

APPENDIX E

APPENDIX E

CHARACTERISTICS OF THE SAMPLE

	<u>Number</u>	<u>Percent</u>
1. Age		
18-24	1	.2
25-34	106	24.9
35-44	147	34.5
45-54	122	28.6
55-over	50	11.7
2. Marital Status		
Single	61	14.3
Married	323	75.6
Separated	1	.2
Divorced	31	7.3
Widowed	11	2.6
3. Sex		
Female	212	49.6
Male	215	50.4
4. Ethnic Background		
Caucasion	405	95.1
Black	11	2.6
Spanish	4	.9
Asian	2	.5
Other	4	.9
5. Number of Children		
0-1	178	41.7
2-4	234	54.8
5-7	15	3.5
6. Income		
Below \$10,000	6	1.4
\$10,000-\$14,999	49	11.5
\$15,000-\$19,999	149	35.0
\$20,000-\$25,000	153	35.9
Over \$25,000	69	16.2
7. Level of Education		
B.A.	3	.7
M.A.	322	75.4
Specialist	32	7.5
Ph.D.	14	3.3
Other	56	13.1

	<u>Number</u>	<u>Percent</u>
8. School Level		
Elementary	11	2.6
Secondary	346	81.0
Other	70	16.4
9. School Affiliation		
Private	17	4.0
Public	157	38.0
Other	253	59.0
10. Time in Job		
Less than one year	21	4.9
1-5 years	150	35.2
6-10 years	115	27.0
11-15 years	85	20.0
16-19 years	42	20.0
20 plus years	13	3.1
11. Occupation		
Counselor	311	72.8
Couns./Couns. Sup.	14	3.3
Counselor/Administrator	6	1.4
Counselor/Teacher	17	4.0
Counselor/Other	12	2.8
Counselor/Supervisor	28	6.6
Couns.-Sup./Administrator	5	1.2
Administrator	15	3.5
Administrator/Other	1	.2
Teacher	45	.5
Other	16	3.7
12. Size of School System		
Below 500	5	1.2
500-999	18	4.5
1000-1499	18	4.5
1500-1999	29	7.2
2000-2499	37	9.2
2500-2999	25	6.2
3000-3499	18	4.5
3500-3999	19	4.7
4000-4499	18	4.5
4500-4999	4	1.0
5000-9999	58	14.4
10,000-19,999	75	18.6
20,000-49,999	41	10.2
50,000 +	19	4.7
Other	19	4.7

APPENDIX F

APPENDIX F

ANALYSIS OF VARIANCE FOR STRESS AND DEMOGRAPHIC VARIABLES

Table F1

Analysis of Variance for Stress by Age

Source of Variance	d.f.	Sum of Squares	Mean Square	F	Level of Significance
Between groups	3	1.4336	.4779	1.5427	.2028
Within groups	422	130.7158	.3098		
Total	425	132.1493			

Table F2

Analysis of Variance for Stress by Marital Status

Source of Variance	d.f.	Sum of Squares	Mean Square	F	Level of Significance
Between groups	3	2.8244	.9415	2.9546	.0323*
Within groups	423	134.7854	.3186		
Total	426	137.6098			

* $p < .05$

Table F3

Analysis of Variance for Stress by Sex

Source of Variance	d.f.	Sum of Squares	Mean Square	F	Level of Significance
Between groups	1	.2618	.2618	.8101	.3686
Within groups	425	137.3480	.3232		
Total	426	137.6098			

Table F4

Analysis of Variance for Stress by Ethnic Background*

Source of Variance	d.f.	Sum of Squares	Mean Square	F	Level of Significance
Between groups	1	.6095	.6095	1.8864	.1703
Within groups	424	136.9904	.3231		
Total	425	137.5999			

*Categories were collapsed into two groups - white and nonwhite.

Table F5

Analysis of Variance for Stress by Number of Children

Source of Variance	d.f.	Sum of Squares	Mean Square	F	Level of Significance
Between groups	2	2.5527	1.2764	4.0070	.0189*
Within groups	424	135.0571	.3185		
Total	426	137.6098			

* $p < .05$

Table F6

Analysis of Variance for Stress by Income

Source of Variance	d.f.	Sum of Squares	Mean Square	F	Level of Significance
Between groups	4	1.8702	.4675	1.4505	.2165
Within groups	421	135.6998	.3223		
Total	425	137.5699			

Table F7

Analysis of Variance for Stress by Level of Education

Source of Variance	d.f.	Sum of Squares	Mean Square	F	Level of Significance
Between groups	4	.9385	.2346	.7245	.5756
Within groups	422	136.6712	.3239		
Total	426	137.6098			

Table F8

Analysis of Variance for Stress by School Level*

Source of Variance	d.f.	Sum of Squares	Mean Square	F	Level of Significance
Between groups	1	.0707	.0707	.2435	.6220
Within groups	355	103.1181	.2905		
Total	356	103.1889			

*Categories were collapsed into two groups, elementary and secondary.

Table F9

Analysis of Variance for Stress by School Affiliation*

Source of Variance	d.f.	Sum of Squares	Mean Square	F	Level of Significance
Between groups	1	.7889	.7889	2.7404	.0997
Within groups	172	49.5129	.2879		
Total	173	50.3018			

*Categories were collapsed into two groups, private and public.

Table F10

Analysis of Variance for Stress by Occupation

Source of Variance	d.f.	Sum of Squares	Mean Square	F	Level of Significance
Between groups	10	4.2793	.4279	1.3352	.2091
Within groups	416	133.3304	.3205		
Total	426	137.6098			

Table F11

Analysis of Variance for Stress by Size of School System

Source of Variance	d.f.	Sum of Squares	Mean Square	F	Level of Significance
Between groups	14	5.8048	.4146	1.2792	.2171
Within groups	388	125.7609	.3241		
Total	402	131.5657			

Table F12

Analysis of Variance for Stress by Time in Job

Source of Variance	d.f.	Sum of Squares	Mean Square	F	Level of Significance
Between groups	5	.6161	.1232	.3816	.8614
Within groups	420	135.6310	.3229		
Total	425	136.2470			

APPENDIX G

APPENDIX G

ANALYSIS OF VARIANCE FOR ILLNESS AND DEMOGRAPHIC VARIABLES

Table G1

Analysis of Variance for Illness by Age

Source of Variance	d.f.	Sum of Squares	Mean Square	F	Level of Significance
Between groups	3	26.9549	8.9850	1 2144	.3041
Within groups	422	3122.1907	7.3986		
Total	425	3149.1455			

Table G2

Analysis of Variance for Illness by Marital Status

Source of Variance	d.f.	Sum of Squares	Mean Square	F	Level Significance
Between groups	3	37.5295	12.5098	1.6988	.1666
Within groups	423	3114.9951	7.3641		
Total	426	3152.5246			

Table G3

Analysis of Variance for Illness by Sex

Source of Variance	d.f.	Sum of Squares	Mean Square	F	Level of Significance
Between groups	1	3.2949	3.2949	.4447	.5052
Within groups	425	3149.2297	7.4100		
Total	426	3152.5246			

Table G4

Analysis of Variance for Illness by Ethnic Background*

Source of Variance	d.f.	Sum of Squares	Mean Square	F	Level of Significance
Between groups	1	.1360	.1360	.0183	.8924
Within groups	424	3149.0095	7.4269		
Total	425	3149.1455			

*Categories were collapsed into two groups, white and nonwhite.

Table G5

Analysis of Variance for Illness by Number of Children

Source of Variance	d.f.	Sum of Squares	Mean Square	F	Level of Significance
Between groups	2	1.4308	.7154	.0963	.9082
Within groups	424	3151.0938	7.4318		
Total	426	3152.5246			

Table G6

Analysis of Variance for Illness by Income

Source of Variance	d.f.	Sum of Squares	Mean Square	F	Level of Significance
Between groups	4	5.6091	1.4023	.1886	.9443
Within groups	421	3129.5365	7.4336		
Total	425	3135.1455			

Table G7

Analysis of Variance for Illness by Level of Education

Source of Variance	d.f.	Sum of Squares	Mean Square	F	Level of Significance
Between groups	4	41.3561	10.3390	1.4024	.2323
Within groups	422	3111.1685	7.3724		
Total	426	3152.5246			

Table G8

Analysis of Variance for Illness by School Level*

Source of Variance	d.f.	Sum of Squares	Mean Square	F	Level of Significance
Between groups	1	6.3355	6.3355	.9228	.3374
Within groups	355	2437.1435	6.8652		
Total	356	2443.4790			

*Categories were collapsed into two groups, elementary and secondary.

Table G9

Analysis of Variance for Illness by School Affiliation*

Source of Variance	d.f.	Sum of Squares	Mean Square	F	Level of Significance
Between groups	1	2.9729	2.9729	.4134	.5211
Within groups	172	1236.9869	7.1918		
Total	173	1239.9598			

*Categories were collapsed into two groups, private and public.

Table G10

Analysis of Variance for Illness by Occupation*

Source of Variance	d.f.	Sum of Squares	Mean Square	F	Level Significance
Between groups	1	6.3013	6.3013	.8231	.3648
Within groups	391	2993.3374	7.6556		
Total	392	2999.6387			

*Categories were collapsed into two groups, counselors and administrators.

Table G11

Analysis of Variance for Illness by Size of School System*

Source of Variance	d.f.	Sum of Squares	Mean Square	F	Level of Significance
Between groups	2	28.6874	14.3437	2.0225	.1337
Within groups	400	2836.8262	7.0921		
Total	402	2865.5136			

*Categories were collapsed into three groups, 0-2499; 2500-4999; 5000 & over.

Table G12

Analysis of Variance for Illness by Time in Job

Source of Variance	d.f.	Sum of Squares	Mean Square	F	Level of Significance
Between groups	5	11.1042	2.2208	.2972	.9144
Within groups	420	3138.0413	7.4715		
Total	425	3149.1455			

APPENDIX H

APPENDIX H

ANALYSIS OF VARIANCE FOR JOB SATISFACTION AND DEMOGRAPHIC VARIABLES

Table H1

Analysis of Variance for Job Satisfaction by Age

Source of Variance	d.f.	Sum of Squares	Mean Square	F	Level of Significance
Between groups	3	701.2216	233.7405	2.4407	.0638
Within groups	422	40413.2524	95.7660		
Total	425	41114.4740			

Table H2

Analysis of Variance for Job Satisfaction by Marital Status

Source of Variance	d.f.	Sum of Squares	Mean Square	F	Level of Significance
Between groups	3	1087.0285	362.3428	3.8279	.0100*
Within groups	423	40040.4022	94.6582		
Total	426	41127.4306			

* $p < .05$

Table H3

Analysis of Variance for Job Satisfaction by Sex

Source of Variance	d.f.	Sum of Squares	Mean Square	F	Level of Significance
Between groups	1	59.3476	59.3476	.6142	.4337
Within groups	425	41068.0831	96.6308		
Total	426	41127.4306			

Table H4

Analysis of Variance for Job Satisfaction by Ethnic Background*

Source of Variance	d.f.	Sum of Squares	Mean Square	F	Level of Significance
Between groups	1	48.8283	48.8283	.5040	.4781
Within groups	424	41076.0213	96.8774		
Total	425	41124.8496			

*Categories were collapsed into groups, white and nonwhite.

Table H5

Analysis of Variance for Job Satisfaction by Number of Children

Source of Variance	d.f.	Sum of Squares	Mean Square	F	Level of Significance
Between groups	2	11.7454	5.8727	.0606	.9412
Within groups	424	4115.6853	96.9710		
Total	426	41127.4306			

Table H6

Analysis of Variance for Job Satisfaction by Income

Source of Variance	d.f.	Sum of Squares	Mean Square	F	Level of Significance
Between groups	4	282.2125	70.5531	.7308	.5713
Within groups	421	40642.9714	96.5391		
Total	425	40925.1839			

Table H7

Analysis of Variance for Job Satisfaction by Level of Education

Source of Variance	d.f.	Sum of Squares	Mean Square	F	Level of Significance
Between groups	4	618.4529	154.6132	1.6107	.1706
Within groups	422	40508.9777	95.9928		
Total	426	41127.4306			

Table H8

Analysis of Variance for Job Satisfaction by School Level*

Source of Variance	d.f.	Sum of Squares	Mean Square	F	Level of Significance
Between groups	1	15.7185	15.7185	.1641	.6856
Within groups	355	33995.2102	95.7612		
Total	356	34010.9286			

*Categories were collapsed into two groups, elementary and secondary.

Table H9

Analysis of Variance for Job Satisfaction by School Affiliation

Source of Variance	d.f.	Sum of Squares	Mean Square	F	Level of Significance
Between groups	1	44.8335	44.8335	.4703	.4938
Within groups	172	16395.5078	95.3227		
Total	173	16440.3414			

*Categories were collapsed into two groups, private and public.

Table H10

Analysis of Variance for Job Satisfaction by Occupation

Source of Variance	d.f.	Sum of Squares	Mean Square	F	Level of Significance
Between groups	10	29423.8674	2942.3867	1.2256	.2723
Within groups	416	998761.8984	2400.8699		
Total	426	1028185.7658			

Table H11

Analysis of Variance for Job Satisfaction by Size of School System*

Source of Variance	d.f.	Sum of Squares	Mean Square	F	Level of Significance
Between groups	2	108.6257	54.3128	.5741	.5637
Within groups	400	37840.4854	94.6012		
Total	402	37949.1111			

*Categories were collapsed into three groups, 0-2499; 2500-4499; 5000 & over.

Table H12

Analysis of Variance for Job Satisfaction by Time in Job

Source of Variance	d.f.	Sum of Squares	Mean Square	F	Level of Significance
Between groups	5	7681.3336	1536.2667	.6324	.6751
Within groups	420	1020213.9551	2429.0808		
Total	425	1027895.2887			

APPENDIX I

APPENDIX I

MEAN SCORES FOR SOURCES OF STRESS FOR COUNSELORS

Source	Question #	Mean	S.D.
1. Too much paperwork	8	2.99	.84
2. Lack of time due to excessive workload	9	2.95	.82
3. Excessive caseload	7	2.78	.91
4. Incongruence between counselor training and actual job responsibilities	3	2.72	.85
5. Parental apathy	15	2.68	.77
6. Insufficient program funding	10	2.63	.84
7. Unrealistic expectations from students, parents, community members, teachers, administrators	29	2.57	.78
8. Conflicting role definitions between counselor and administrator	1	2.55	.98
9. Ineffective leadership from administrators	19	2.51	.91
10. Intraschool politics	28	2.50	.85
11. Lack of appreciation shown through rewards or supervision feedback	20	2.47	.81
12. Lack of staff commitment to the counseling process	17	2.46	.79
13. Lack of communication between staff and teachers	13	2.44	.81
14. Lack of communication from administrators to counselors	12	2.44	.91
15. Job security in face of funding cutbacks	27	2.42	.91
16. Non-counseling responsibilities (substitute teaching, hall monitoring, etc.)	2	2.38	.99

Source	Question #	Mean	S.D.
17. Inadequate program support (from administrators, counselors, teachers, parents)	11	2.34	.87
18. Interference from persons unrelated to the counseling process	30	2.33	.78
19. Inadequate pay	23	2.33	.83
20. Limited job advancement opportunities	26	2.32	.85
21. Feeling of lack of success	21	2.31	.77
22. Mood of the environment (sexist, racist, isolated, apathetic, etc.)	16	2.30	.90
23. Lack of resources needed to perform job completely (referral agencies, infor- mation, etc.)	22	2.29	.80
24. Required attendance at meetings	24	2.13	.70
25. Meeting with parents	14	2.11	.72
26. Inadequate physical facil- ities (no privacy, poor space allotment, etc.)	5	2.10	.96
27. Personal problems (family, illness, death, etc.)	18	2.08	.88
28. Inability to perform certain tasks due to lack of compe- tency	4	1.99	.83
29. Being fired	25	1.73	.84
30. Quality of physical facil- ities (barred windows, graffiti, police or guards present)	6	1.71	.86

A PENDING J

APPENDIX J

LIST OF ADDITIONAL STRESSORS

1. Personality conflict with other counselors in the building.
2. Fringe benefits.
3. Pressure from higher-ups to make them look good.
4. Too much delegation of principal's responsibilities to director of counseling.
5. Impossible job definition written by person totally unrelated to the counseling process in order to get Title I funds.
6. Extra curricular activities.
7. Increased expectations due to state & federal laws and mandates, staff cutbacks, too many "new" programs to be implemented, incompetency of other "professionals".
8. Computer problems.
9. Feeling of fragmentation as a result of too many responsibilities and not enough time to do the job well.
10. Lack of professional respect shown by administrators.
11. Additional programs during the summer.
12. Lack of proper evaluation of counselors.
13. Lack of program evaluation.
14. Lack of adequate secretarial help.
15. Attempting to do graduate school work and work at the same time.
16. Philosophical conflict with other counseling staff.
17. Attendance policy.
18. Lack of physical exercise.
19. Lack of mental exercise.
20. Inflation and its relation to retirement.

21. Teaching contract disputes.
22. No contract.
23. Frustration due to seriousness of cases.
24. Lack of basic moral standards.
25. Instabilities of many families.
26. Mobility of students.
27. Student disrespect.
28. Lack of professionalism of teachers (attendance, lateness, class preparation).
29. Assigned duties and responsibilities.
30. Lack of opportunity to unload professional problems in a supportive environment.
31. Too great a number of responsibilities expected of department.
32. Beginning of the year activities (balancing classes, correcting conflicts, etc.)
33. Unrealistic deadlines.
34. Non-humanistic teachers.
35. Inequitable load among counselors.
36. Lack of facilities for updating skills.
37. Traditional school orientation.
38. Limited opportunity for fun.
39. Distance from the job.
40. Increased workload due to mandatory special education.
41. Interpersonal relations in department.
42. Peak times of year (scheduling).
43. Placing high expectations on self.
44. Early hour of arrival (7:15 a.m.).
45. Temperature of office - too low to function.

46. Constant association with one staff person who is very negative and hostile generally.
47. Constant requirement to remember many details all at once.
48. Noise.
49. Lack of knowledge as a new counselor.
50. Worry about doing the right thing and what my responsibility is toward each kid.
51. Millage vote.
52. Lack of cooperation from the courts in dealing with truants or juvenile problems (stealing, breaking and entering, etc.).
53. Social service agencies which advise students they don't have to fulfill their obligations at school.
54. Spoiled children.
55. Poor parenting.
56. Inability of administrators and school board to view counseling as a valuable function.
57. Welfare program clients.
58. Business office conflicts.
59. Sports emphasis in public schools.
60. Inability to help students with extremely difficult home situations.
61. Attitude of older counselors.
62. Rigidity of school policy.
63. Lack of effectiveness of own work.
64. Incorporating problems of student into self.
65. Change of administration (new boss).
66. Retention of incompetent staff members.
67. Lack of planning and organizing ability.
68. Seeing competent people quit to take better paying jobs.

69. Seeing good and competent teachers perform well below their ability.
70. Seeing good administrators, boards, parents boxed in by the system and unable to break free.
71. Seeing good people (students) try to break free of defeating behavior patterns and get slapped in the face by others for past grievances.
72. Responsibilities for all guidance and counseling programs and functions as well as ancillary programs.
73. Child accounting responsibilities.
74. Crisis counseling - pregnancies, child abuse, depressed and suicidal students, anxious students with low self-esteem.
75. Split sessions.
76. Dealing with high failure rate.
77. Dealing with high dropout rate.
78. Dealing with cultural differences of majority of students.
79. Not enough conferences, etc., time for growth.
80. No block time for group counseling - kids bussed.
81. Too many years in education - feeling trapped!
82. Fear - throughout faculty.
83. Constant insecurity.
84. Administrative harassment - personal verbal attack by administrators.
85. Priority given to high school counseling.
86. Lack of classes offered for Spanish students.
87. Graduation - pulling seniors through.
88. Foreign language - being unable to communicate.
89. Lack of understanding of ethical behaviors by fellow staff members.
90. Indifference toward students by colleagues.

91. Not enough guidance staff meetings.
92. Too great a pupil/counselor ratio.
93. Trying to get sex education in curriculum.
94. Inadequate curriculum.
95. Insufficient parent-volunteer aid.
96. No funding for major conferences, seminars or one day workshops.

APPENDIX K

APPENDIX K

CATEGORIES OF STRESS-LINKED BEHAVIORS

I. PHYSICAL EFFECTS

- Upset stomach
- Very nervous
- Trembling hands
- Nightmares
- Shortness of breath
- Dizzy spells
- Loss of weight
- Cold sweats
- Tired feeling

II. DRUG USAGE

- Use of tranquilizers
- Use of amphetamines
- Use of marijuana
- Drinking alcohol

III. BEHAVIORAL EFFECTS

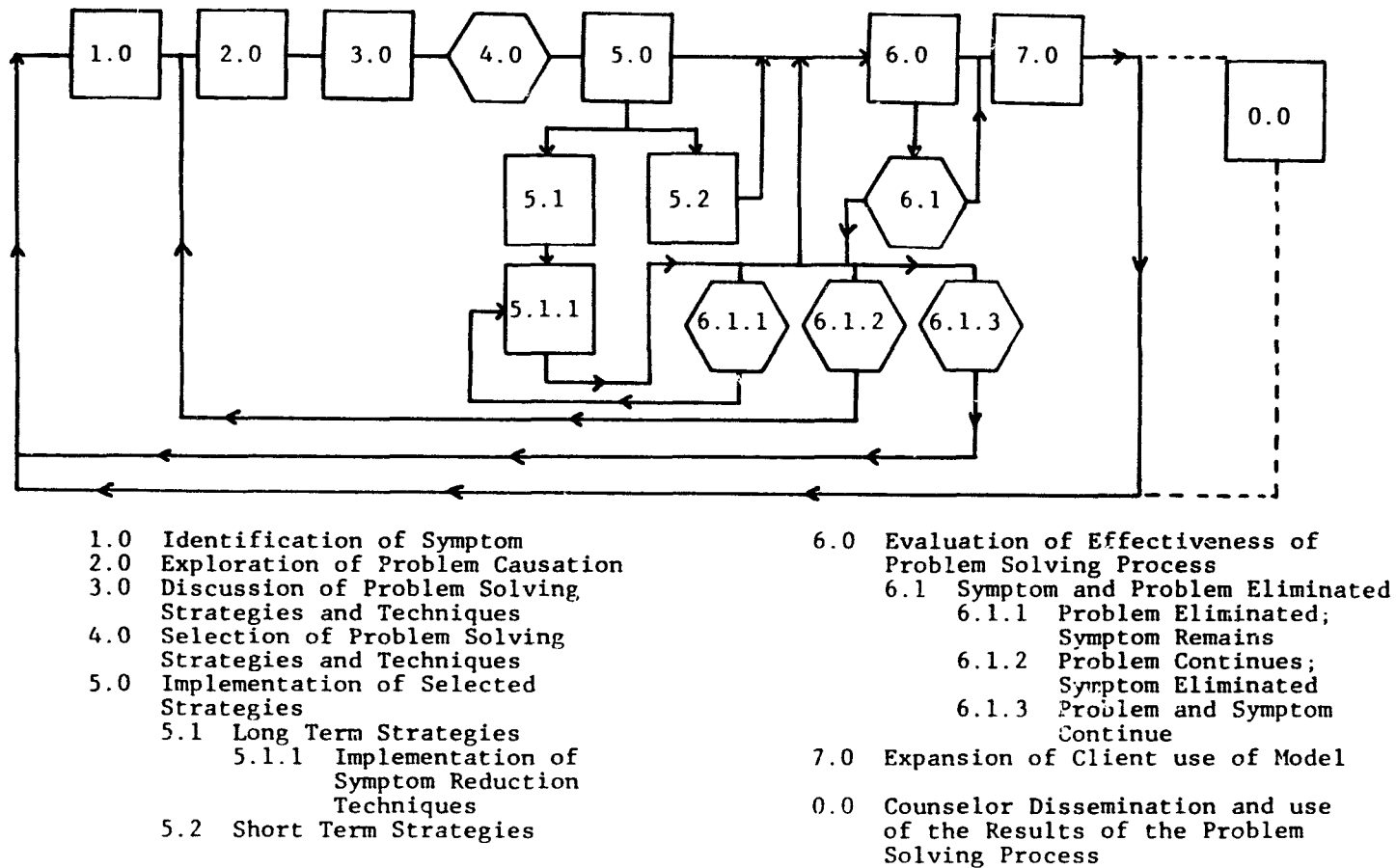
- Loss of appetite
- Smoking
- Buying spree
- Absent from work due to illness
- Nailbiting

IV. USE OF CONSULTING SERVICES

- Consulted with a doctor
- Consulted with a psychiatrist, psychologist or counselor
- Consulted with clergy

APPENDIX L

APPENDIX L



A SYSTEMIC APPROACH TO COUNSELING

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