1993

Perceived stress levels : a survey of injured and non-injured workers

Ruth Horvath-Hollander
San Jose State University

Follow this and additional works at: https://scholarworks.sjsu.edu/etd_theses

Recommended Citation

Horvath-Hollander, Ruth, "Perceived stress levels : a survey of injured and non-injured workers" (1993). *Master's Theses*. 547.

DOI: <https://doi.org/10.31979/etd.pfeg-fx22>

https://scholarworks.sjsu.edu/etd_theses/547

This Thesis is brought to you for free and open access by the Master's Theses and Graduate Research at SJSU ScholarWorks. It has been accepted for inclusion in Master's Theses by an authorized administrator of SJSU ScholarWorks. For more information, please contact scholarworks@sjsu.edu.

INFORMATION TO USERS

This manuscript has been reproduced from the microfilm master. UMI films the text directly from the original or copy submitted. Thus, some thesis and dissertation copies are in typewriter face, while others may be from any type of computer printer.

The quality of this reproduction is dependent upon the quality of the copy submitted. Broken or indistinct print, colored or poor quality illustrations and photographs, print bleedthrough, substandard margins, and improper alignment can adversely affect reproduction.

In the unlikely event that the author did not send UMI a complete manuscript and there are missing pages, these will be noted. Also, if unauthorized copyright material had to be removed, a note will indicate the deletion.

Oversize materials (e.g., maps, drawings, charts) are reproduced by sectioning the original, beginning at the upper left-hand corner and continuing from left to right in equal sections with small overlaps. Each original is also photographed in one exposure and is included in reduced form at the back of the book.

Photographs included in the original manuscript have been reproduced xerographically in this copy. Higher quality 6" x 9" black and white photographic prints are available for any photographs or illustrations appearing in this copy for an additional charge. Contact UMI directly to order.

U·M·I

University Microfilms International
A Bell & Howell Information Company
300 North Zeeb Road, Ann Arbor, MI 48106-1346 USA
313/761-4700 800/521-0600

Order Number 1353024

**Perceived stress levels: A survey of injured and non-injured
workers**

Horvath-Hollander, Ruth Irmgard, M.A.

San Jose State University, 1993

U·M·I
300 N. Zeeb Rd.
Ann Arbor, MI 48106

PERCEIVED STRESS LEVELS:
A SURVEY OF
INJURED AND NON-INJURED WORKERS

A Thesis
Presented to
the Faculty of the College of Education,
Division of Special Education and Rehabilitative Services
San Jose State University

In Partial Fulfillment
of the Requirements for the Degree
Master of Arts

By
Ruth Horvath-Hollander
May 1993

APPROVED FOR THE DIVISION OF SPECIAL EDUCATION AND
REHABILITATIVE SERVICES

Daniel W. Wong, Ph.D.

Phyllis Gordon, Ph.D.

Xiaolu Hu, Ph.D.

APPROVED FOR THE UNIVERSITY

Serena H. Stanford

ABSTRACT
PERCEIVED STRESS LEVELS
A SURVEY OF
INJURED AND NON INJURED WORKERS
by Ruth Horvath-Hollander

ANOVA results found statistically significant relationships between perceived levels of stress and both job-related injury experience and gender. A predicting equation was developed to predict perceived levels of stress based upon subject gender and job-related injury experience. The accuracy of the predicting equation in relation to sample means ranged from 95.3 percent to 17.7 percent, with the greatest accuracy associated with injured subjects.

It was concluded that organizational managements would be well advised to establish assistance programs for employees with job-related injury experience. It is these employees who are at greatest risk for the development of harmful (to both employees and organization) stress. It was concluded further that the predicting equation may be usefully applied as a preliminary indication of perceived stress levels among employees with job- related injury experience.

TABLE OF CONTENTS

Chapter	page
1 - INTRODUCTION	1
Statement of the Problem	1
Research Questions and Hypotheses	5
Study Purpose	6
Limitations	6
2 - LITERATURE REVIEW	7
Introduction to the Problem of Organizational Stress	7
Historical Perspective	12
Mid-Career Stress	15
Stress Management: Concepts and Practice	22
The Control of Absenteeism	31
Stress and Coping	36
Organizational Contributions to Burn-Out	37
Liability Issues	42
Instruments for Diagnosing Job Stress	49
Conclusion	51
3 - METHODOLOGY	54
Research Focus	54
Variables	55
Research Design	55
Population and Sample Selection	55
Data Collection and Instrumentation	56

Data Analysis	56
4 - FINDINGS	61
Findings Related to the Research	
Questions and Hypotheses	61
Predicting Perceived Stress Levels	63
5 - SUMMARY AND CONCLUSION	64
REFERENCES	66
Appendix - LIFE EVENTS SURVEY	69

INTRODUCTION

Stress has long been recognized as a major contributor to the onset of significant physical and mental health problems in individuals (Maes, Vingerhoets, and Heck, 1987, pp. 567-587; Hinkle, 1987, pp. 561-566). Over the past decade, however, stress has also been implicated as an adverse factor in areas of life other than physical and mental health. In the organizational environment, stress has been implicated in the deterioration of individual performance efficiency, which in turn, affects the overall performance of the organization (Gaines and Jerimer, 1983, pp. 44-53). Stress has also been linked to high personnel turnover in organizations (Bowers, 1983, pp. 5-19).

Statement of the Problem

Stress is defined as "a state of tension, strain, or pressure and is a normal reaction resulting from the interaction between an individual and the environment" (Selye, 1974, p. 312). Those actions or conditions which induce stress are referred to as stressors (MacBride, 1984, p. 5). In any individual life, or in any organizational environment, stress may produce either positive or negative results.

Selye (1950, p. 55) considered the possibility that a variety of damaging influences, or stressors, could produce the same reactions, or stress-outcomes, within an organism. He was the first to publicly hold that, while excessive stress may be damaging to an organism, (1) an absence of stress was not desirable, and (2) moderate stress may have beneficial effects (Selye, 1950, p. 470). This expanded concept of stress contained three levels: (1) the environment; (2) the organism's appraisal and evaluation of the environment; and (3) the organism's reaction to the environment. An organism appraises and evaluates the environment as threatening, helpful, or neutral. Responses on the part of an organism may be psychological, physiological, or both. This perception of stress is significant in several ways. One of the most important is the recognition that it is not the

actual harmfulness of a stressor which is the only way in which a stressor can cause damage. The perception of harmfulness can also cause damage.

In the 1960s, the idea was introduced that the quantity of stress, as well as the quality of stress (perceived or actual), affects both the probability and the extent of damage from stress. It was reported that the "risk of impairment bears a linear . . . relationship to the number of stresses," and that "the greater the life stress, the greater the deformation or disturbance of the human material being put to the test" (Langner and Michael, 1963, p. 151). It was also noted, however, that different individuals react differently to stress. Similar quantity levels of stress will not produce similar levels of damage in all individuals. Further, no threshold level of stress was found, above which all individuals will be impaired. Even positive life event changes have been shown to be related to temporary negative stress-outcomes. This finding has been interpreted to indicate that social disruption and disintegration follow any major change in the normal living pattern--positive or negative.

The significance of the research into the relationship between life event changes and stress is two-faceted. First, significant stress-outcomes may reasonably be expected from significant life event changes. These outcomes may be either positive or negative in character. Second, the correlation between stress-outcomes and life event changes is not sufficiently strong to permit the relationship to be used for specific predictions of stress-outcome intensities with respect to specific individuals in specific situations.

Stressors within organizational environments have been investigated within the context of occupational, or on-the-job, stress. Two primary sources of occupational stress have been identified. The first source of these stressors is the job itself. The specific characteristics of a job are the source of what are called task-related stressors (MacBride, 1984, pp. 1- 24). The second source of occupational stressors is the

organizational environment itself. Stressors associated with the organizational environment are referred to as context-related.

Context-related stressors are external to the tasks associated with a job (MacBride, 1984, pp. 1-24). Context-related stressors typically develop as a result of flawed organizational structures, ineffective organizational development, the inability of an individual to pursue successfully achievement goals within an organization, or some combination of all three.

Task-related stressors, as indicated above, are directly related to the specific characteristics of the job itself. These stressors involve role ambiguity, conflicting task demands, work overload or work under load, inadequate resource support, no provision for meaningful participation in decision-making, and insecurity, among others.

Stress-outcomes associated with occupational stressors (both task and context) tend to vary widely. Workers may simply resort to daydreaming or fantasizing. They may react more actively by creating interpersonal and intraorganizational conflicts. They may get sick, or they may terminate their relationship with the organization. These actions are just a few of literally dozens of stress-outcomes which may result from occupational stressors. Absenteeism and substance abuse are two additional high profile, and easily identifiable stress-outcomes of occupational stressors. Reductions in effectiveness and productivity are less easily identifiable stress-outcomes of occupational stressors. They are, however, among the most debilitating for both the organization and for the individual.

Occupationally-related stressors tend to vary from job to job and from organization to organization (Mirabile, 1983, pp. 44-49). Occupationally-related stressors also tend to change, as organizational environments change, as organizational staffing changes, as job tasks change, and as individuals develop within organizations

and jobs. The ways in which individual perceive occupationally-related stressors are also affected by the non- occupational stressors in an individual's life.

Both the type and the magnitude of stressors varied according to organizational level (Parasuraman and Alutto, 1984, pp. 45-67). At upper management levels, the most significant stressors tended to be qualitative overload and time constraints, while at lower levels of an organization, the most significant stressors tended to be role frustration and technical problems (Parasuraman and Alutto, 1984, pp. 45-67). Thus, a "large measure of homogeneity in the perceived work experiences of individuals" exists "within particular membership groups, but not between membership groups" (Parasuraman and Alutto, 1984, p. 53). Both "contextual- and role-related variables affect job attitude, job behavior, and the magnitude of job stressors" (Parasuraman and Alutto, 1984, p. 45). Thus, an individual's "perceptions of work-generated stressors and their eventual reactions to these organizational realities are importantly influenced by their location within a particular organizational space" (Parasuraman and Alutto, 1984, p. 45).

Stress is often higher among blue-collar workers than among managerial personnel (Parasuraman and Alutto, 1984, pp. 45-67). Job level, associated with job status, has been found to be tied to self-esteem. Lower self-esteem is associated with higher levels of stress (Parasuraman and Alutto, 1984, pp. 45-67).

Alienation has also been related to the development of occupational stress (Garfield, 1985, pp. 111-134). Alienation with respect to occupational stress is defined as "an objective social situation that exists independent of its recognition by those in that situation" (Garfield, 1985, p. 115). The definition also infers that events, such as job-related injuries, that possess an alienation-creating potential may also have a stress-creating potential.

Knowledge as to the exact nature of the stressors present within an organizational

environment is important. If organizational supervision accepts a view that stress is inseparably a part of the job, management likely also will accept a conclusion that little can be done to reduce stress levels. As a consequence, organizations will simply attempt to find individuals who can withstand the stressors. If, on the other hand, many or most of the stressors present within an organizational environment are context-related, as opposed to being task-related, efforts to find individuals who can withstand the stressors will likely fail, simply because the relevant stressors will not have been identified. Further, where stressors are context-related, effective organizational interventions to relieve stress are possible (Harrison, 1988, pp. 74-78).

The problems associated with organizational stress are many and varied, and research into the nature of these problems is often more effective when limited to the investigation of specific relationships, as opposed to an attempt to encompass the entire set of problems in a single study. Within this approach to research in organizational stress, this investigation was limited to the examination of perceived stress levels among employees and (1) the job-related injury experience of those employees, (2) the job classification of those employees, and the gender of those employees.

Research Questions and Hypotheses

Based on the approach to the investigation of the problem described in the preceding section, three research questions were formulated for investigation. These research questions, and the associated hypotheses, are as follows:

1. Are perceived stress levels affected by the job-related injury experience of an individual employee?

It is hypothesized that perceived stress levels will be higher among employees who have suffered a job-related injury.

2. Are perceived stress levels affected by the job classification of an individual

employee?

It is hypothesized that perceived stress levels will be higher as the organizational hierarchical level of an employee's job classification descends.

3. Are perceived stress levels affected by the gender of an individual employee?

It is hypothesized that perceived stress levels will be higher generally among male employees than among female employees.

Study Purpose

The purpose of this study was two-faceted. First, this study was designed to develop information to expand the understanding of factors and relationships affecting both the development and management of stress within organizational environments. Second, through the research performed for this study, an attempt was made to develop a model that would permit the prediction of perceived stress among members of an organization.

Limitations

The research sample for this study was drawn exclusively from among participating organizations located in the San Francisco Bay area. To the extent that perceived stress levels generally among residents of this area differ from perceived stress levels characteristic of other areas, the findings and conclusions of this study are not generalizable. The researcher, however, found no indications that perceived stress levels among residents of the San Francisco Bay area differ to an significant extent from perceived stress levels among residents of other geographic areas in the United States. Thus, an assumption was made by the researcher that the findings and conclusions of this study are generalizable.

Chapter 2

LITERATURE REVIEW

This review of literature focuses on research in several different areas. These areas are (1) introduction to the problem of occupational stress, (2) historical overview, (3) mid-career stress, (4) concept and practice of stress management, (5) control of absenteeism, (6) burn-out, (7) liability issues, (8) instruments for diagnosing stress, and (9) summary of the findings of the literature review.

Introduction to the Problem of Organizational Stress

The rising incidence of stress-related disorders has generated considerable research interest in occupational stress and in efforts aimed at alleviating such disorders (Schwartz, Murphy, and MacLeod, 1980). The vast literature about the individuals coping with stress comes from many and diverse disciplines. It originates in psychiatry, clinical and social psychology, sociology, cultural anthropology and occupational and internal medicine (Schwartz, Murphy, and MacLeod, 1980). There is a significant contribution from such widely different fields as behavioral medicine and personnel and management.

Many attempts are made to define stressors--those elements in the work environment which generate distress in the workers. Psychosocial factors are emerging as important sources of stress which can influence worker health and well-being. The complex interactions between work and life stress and the effects of personality traits on stress reactions are a few of the diverse areas being investigated (McLean, 1988). Factors which serve to "buffer" the individual against stress (i.e., biofeedback, relaxation) are also being investigated.

While stress management or stress reduction programs are being implemented at an ever increasing rate, there exists a gulf between the professional/practitioner and the

scientist/ researcher. This is due in part to a lack of "cross-talk" between these groups that hinders the translation of research findings into applied therapies and programs (Schwartz, Murphy, and MacLeod, 1980).

There is a growing common concern. Theories and practices in each discipline are beginning to cross-pollinate other disciplines and to exert a positive influence toward understanding stressors of the work place and workers reactions. Occupational stress is definitely a field of concern. Sound knowledge is developing in each field along with evident research (World Health Organization, 1983). Social science research is beginning to stimulate legislation. In the Scandinavian countries, for instance, employers are required, in some instances, to provide meaningful work and appropriate job satisfaction with a minimum of occupational stress. There is then increasing awareness and expertise focused on both theoretical and practical problem solving (McLean, 1988).

In this study the researcher is especially interested in how a person's perception of her or his organizational position and experience affects the reaction to stress. This study seeks to determine how these perceptions affect, in turn, a person's perception of a stressful episode and their subsequent response or coping options.

The industrial revolution has brought undreamed of creature comforts, labor-saving devices, and other material benefits to a large segment of the world's population. It has also exposed more and more people to a myriad of dangers from atmospheric and water pollution, radiation, electricity, allergies and noise. In a variety of ways it has wrought sweeping changes in the life of Western Civilization. Not only technology affected the worker's health and that of his family through mechanical and chemical hazards, but more subtly through the assembly line and other features of mass production.

It is clearly in the interests of the employer to have healthy employees.

Therefore, one must ask what being healthy consists of. "Health has been defined as a state of moral, mental and physical well being which enables crises in life to be faced with facility and grace" (Wolf and Finestone, 1986, p. 38). From the point of view of the employer, then, a healthy employee is one who is on hand and able to meet the challenges of the task. A state of health thus implies far more freedom from infection or injury, or even freedom from headache, backache, or alcoholism. The positive state of health is composed of many ingredients including that essential, but elusive quality, motivation. Motivation and morale contribute to health not only by enhancing performance but also by promoting freedom from disease.

Occupational stress is the product of an interaction between persons and their work environments. Reducing stress entails modifying persons and/or work organizations--a difficult task especially if stress reduction may have to come at the expense of other individual or organizational goals or needs (Matteson and Ivancevich, 1987).

Most industrial firms now recognize that an eager and dedicated worker is likely to be a healthy worker. Since the job situation plays an important part in the emotional nourishment of most Americans, the balance of satisfactions versus frustrations on the job becomes important to the health of the employee. Industries that have provided recreational facilities and opportunities for relaxed fellowship have taken a step in this direction, but much more is needed to make a significant impact on the health of employees (House and Jackman, 1989). Further studies of human nature are required. Working mothers make up a substantial portion of the present-day work force. Their needs revolve around mundane family problems--how to arrange to care for a sick child or to pick up a child after school. The lives of most American men are divided into three sphere of activities. In younger years activities center on home, school, hobbies and

recreation; later the main activities are home, job, hobbies, and recreation; finally, there is retirement with heavy reliance on home, hobbies and recreation (Wolfe and Finestone, 1986).

Other examples of the relationship between background meanings and stress and coping are more important and less extreme. People who suffer from "meaninglessness" temporarily are said to be "burned out." Their meanings have gone "flat" on them. Tasks that once seemed important no longer seem worth doing. The person who has lost deeply held commitments (that is, personal meanings) feels depressed (Klinger, 1975; Wrubel, Benner, and, Lazarus, 1981).

The following outcomes have resulted in job stress levels: job satisfaction, life satisfaction, motivation to work, intention to leave job, absenteeism, overall physical health, self-esteem, depressed mood, and escapist drinking. One stressor--non-participation, appears to be of special significance, correlating highest among all of the stressors with eight strain measures. Responses to the job stress and strain questions varied considerably across occupations (Seamonds, 1982). Professional and technical workers and managers scored highest in perceived job satisfaction but also showed high level of depressed mood. Machine operators scored lowest for job satisfaction and low in perceived health, but scored the best of any group on the mental health measure. Laborers showed the second worst job satisfaction level but perceived their health as good and scored well on mental health measures. Overall white collar workers showed much greater job satisfaction than blue collar workers although they showed slightly high depressed mood and slightly poorer perceived health (Smith, Colligan, and Hurrell, 1986).

The most significant stressors reported by different studies in this literature review were difficulties with job complexity (too little for blue collar, too much for

professional), utilization of abilities (underutilization of blue collar, overutilization for professionals), and responsibilities for persons which was most troublesome for first level supervisors. In addition to these stressors blue collar workers complained of job dissatisfaction, boredom and dissatisfaction with the work load.

Burn out is a common cause of stress. Burn out is defined as a debilitating psychological condition brought about by unrelieved work stress, which results in: (1) depleted energy reserves, (2) lowered resistance to illness, (3) increased dissatisfaction and pessimism, and (4) increased absenteeism and inefficiency at work (Veninga and Spradley, 1981). Burnout has also be described as a response to chronic, everyday stress, not reaction to an occasional crisis (Maslach, 1982). The chronic nature of the stress leads to diminished tolerance for familiar conditions, often without evident changes in the work environment. Maslach (1982) identifies the hallmark of the burnout syndrome as a shift in perception of other people from positive and caring to negative and uncaring.

As it is well known that significant differences in disease type and rate occur across different occupations, it is important to find out the extent to which these differences are due to physical factors such as diet, exercise and toxic chemicals and to what extent they are due to psychological factors (Weiman, 1987). A program for prevention must be able to control job stresses which have ideological significance or else it will have no influence in preventing disease.

Once the causal role of job stresses has been established, it is necessary to discover the specific stresses which are involved in each job. High stress jobs cannot be abolished; but if we knew exactly the dimensions of stress involved, we might be able to alter some of these stresses in such a way as to prevent disease. Thus, we need to know how the prevalence and the strength of a whole series of job stresses vary across different jobs.

Historical Perspective

As with so many aspects of medicine, the concern with occupational health begins with Hippocrates in the fifth century B.C. His books, Airs, Waters, and Places, was written as a health guide for Greek mercantile colonists who had set up trading posts in remote places. (It was the view of the Hippocratic physician that the characteristics of health and disease are conditioned by external government.) Until the late nineteenth century when the germ theory took over, Airs, Waters, and Places was reissued as a practical guide to physicians. It stressed the importance of man's environment as a factor in disease, including physical, climatologic and social elements, and what today is termed life style (Wolfe and Finestone, 1986). The idea that the type of work bears to a relationship to the type of disease experienced was proposed 300 years ago by the great Ramazzini in Italy. Bernardo Ramazzini described in detail the disease of people engaged in some forty types of work and advised his fellow physicians to question their patients about their occupations. In this book, *De Morbis Artificum Diatriba* published in 1700, Ramazzini who stressed prevention rather than treatment, urging attention to the special characteristics of individual workers, anticipated many of our present concerns in occupational medicine. His work had little or no impact on English speaking countries at the time, but by present day historians of medicine, he is acknowledged as the "father of occupational medicine" (Wolfe and Finestone, 1986, p. 49). While Ramazzini recognized that sharp and acid particles in the air at the work environment of the craft could cause disease, he was equally concerned with the habits and behavior of workers and with the adverse effects of other environmental factors such as poor housing, fatigue and malnutrition. His belief that occupational illness was the end result of many interactions between the worker and his environment--social, economic, cultural, philosophical, political, and religious--presaged the current ecological view of disease (Wolfe and

Finestone, 1986). About a century after Ramazzini, another important idea took shape, namely that intellectual functions, emotions, movements of muscles, and alterations in the behavior of internal organs are a consequence of the brain's processing of sensory experience (Turner and Lawrence, 1986).

In the United States George M. Kober, a leader in American public health, introduced teaching of occupational medicine at Georgetown University Medical School in 1890. He also wrote an early text, Industrial and Personal Hygiene (Levi, 1981).

The first national congress on occupational disease was held in 1910 in Chicago. In that year Alice Hamilton of the Harvard Medical School commenced her industrial hygiene career with a publication about lead poisoning. A subsequent classic, Industrial Poisons in the United States, 1925, established Dr. Hamilton as an authority on health promotion in the industry (Wolfe and Finestone, 1986).

Recognition of the relevance of emotion and social factors to job performance and to health has been achieved mainly in the present century. It had lead to a systematic concern for the psychological welfare of employees. A gentleman named Hugo Munsterberg (1863-1916) extended psychology into industry and law and wrote the first text books in these areas. He and his colleagues studied the effects of fatigue in occupation and recommended the institution of rest period to improve the workers' morale as well as their productivity. Industrial accidents have been reduced greatly as the result of psychological studies. Morris S. Viteles and others found some persons to be "accident prone"; they tend to have more of their expected share of accidents. He found that counseling along with installing accident-proof equipment and requiring frequent inspection of factories, reduces industrial mishaps (Turner and Lawrence, 1986). Employees motives and grievances are likewise important to production. A study by company officials also demonstrated that improved productivity could be achieved from

groups of workers simply by a display of management concern for their welfare (Weiman, 1987).

The growing interest in the relationship of psychological and social well-being to health sparked a new view of the old mind-body dilemma. An enlightened observer and philosopher of this development was Alan Gregg (quoted in Murphy, 1985), who wrote in the Harvard Medical Alumni Bulletin in 1936:

The totality that is a human being has been divided for study into parts and systems; one cannot decree the method, but one is not obliged to remain satisfied with this results alone. What brings and keeps our several organs and numerous functions in harmony and federation? And what has medicine to say of the facile separation of "mind" from "body"? The need for more knowledge is of an excruciating obviousness. But more than mere need, there is an overshadowing of changes to come. Psychiatry is a star, neurophysiology is crescent, neurosurgery flourishes and a star still hangs over the cradle of endocrinology. Contributions from other fields are to seek from psychology, cultural anthropology, sociology and philosophy as well as from chemistry and physics and internal medicine to resolve the dichotomy of mind and body left us by the Socrates (p. 231).

In 1971 welfare, Elliott L. Richardson established a commission to examine as a fundamental social institution in America. After thorough review of the existing literature, Richardson summed up the study with a quotation from Albert Camus:

Without work all life goes rotten. But when work is soulless life stifles and dies...Because work is central to the lives of so many Americans, even the absence of work or employment in meaningless work is creating an increasingly intolerable situation. The human costs of this state of affairs are manifested in work alienation, alcoholism, drug addiction and other symptoms of poor mental health...Industry is

paying for its continued attachment to tailoristic practices through lower worker productivity and high rates of sabotage, absenteeism and turn over. Unions are paying through the faltering loyalty of the young membership that is increasingly concerned about the apparent disinterest of its leadership in problems of job satisfaction.

There is evidence that high morale, self esteem, a sense of importance and power, and recognition and appreciation by others are conducive to health and longevity. The concept extends another step the more negative concept of forty or more years ago that social and emotional stress are contributory to bodily disorders and diseases (Wolfe and Finestone, 1986).

A healthy industrial society needs to provide for human needs and the aspirations of its workers. Perhaps the managers of industry will learn that to lead people is a more appropriate aim than to just manage them.

Mid-Career Stress

Until the last two decades or so the general population considered middle age as a natural phenomenon that was taken for granted. By the same token, once an individual found or was put into a career path, it was taken for granted by the majority of the work force that it would not change. Career choice contained a large component of security needs satiation. Middle age was perceived as a point in time when the slope of one's life plane peaked and began a downward direction. This was accepted and dealt with as an inevitable fact of life. This is not to suggest that contentment with work and acceptance of the aging process were universal and of no concern. These were, as now, significant milestones in individual life cycles. However, responses to these concerns were not acted out via behavioral manifestations which were as overt, as strong, or as widespread as they are today (World Health Organization, 1973).

Today when we attempt to look at the phenomenon of stress in the work environment and the stresses of middle age, two separate, and yet very intimately interactive entities are observed. Changes in technology and cultural standards have resulted in significant alterations of lifestyles and value systems of many individuals. For many, work and careers are not only an economic necessity, but are also looked to as a source of intrinsic need satiation. Changing social norms and individuals' inability to deal with conflicts in changing family relationships, personal roles, and dissatisfaction with traditional behavioral guides can result in stress for many. Changes in the work place in the form of task overload, job ambiguity and conflict with an organization culture are equally as stress producing (Wahland, Ingrid, Nerell, and Gunnar, 1985).

The world has grown smaller. Commerce has decreased distances between countries. This has resulted in a much faster-paced industrial environment, creating more demands on people than previous generations have had to face in similar positions. Adaptation to new work requirements has been a difficult and complex process. It is suggested that while management has become fairly astute in equitably dealing with financial and physical resources, the age of enlightenment in dealing effectively with the human resource is, relatively speaking, just beginning (McLean, 1978).

The human resource, on the other hand, has also undergone considerable change in value systems and self-image. On the average, people are living longer, are healthier for a longer period of time, are better educated, and have a much changed perspective of social and moral issues and the role they see themselves playing and of their role in the working environment (World Health Organization, 1973).

Increasingly larger number of workers, both blue-collar and white-collar, are no longer satisfied with the concept of security as the only premise for accepting a lifetime career in a given occupation. Nor are they as accepting of organizational autonomy in the

ways that their fathers or mothers were. The worker today is responding to a set of needs that includes not only security in the form of financial compensation and job safety, but also job satisfaction and an opportunity to contribute to one's own personal growth in a non-materialistic way. The concept of quality in working life is taking as significant a role in many individuals' life systems as is a quantitative aspect of work which has generally been tied to financial remuneration and job security (Wahlund, Ingrid, Nerell, and Gunnar, 1985).

Today more and more people are in the "mid-career" stage of life. This is a broad stage that may range between the chronological ages of 35 to 55 plus. The people in this age range are subject to a dual set of pressures within their life systems. One set is from the work place, in terms of their perception of expectations and demands made upon them for performance and achievement within the organization. Added to these pressures are those exerted by their social and family environments that place them, as values and standards change, in many conflicting situations (World Health Organization, 1973).

There are relatively few research studies of mid-career phenomena which objectively and systematically define cause and effects. How do we know there is a problem? Subjectively, we see a larger number of individuals above 35 becoming drug involved, particularly through the use of alcohol. The divorce rate among older people is increasing. Second and third marriages of individuals in their forties and fifties are becoming more and more commonplace. Within the industrial setting, expressions of lack of job satisfaction and desire to change careers and do something that will have more intrinsic value is being expressed more and more via worker attitude surveys designed to get at such feelings. An increased trend toward worker participation in career tasks is being expressed as a need by workers at all organizational levels. Many develop unrealistic aspirations as to what they can do or where they think they are expected to go

from a job achievement point of view. Many organizations reinforce traditional behavior by placing high value on aggressive, competitive behavior that leads to stereotypes of organization success, but not necessarily individual satisfaction (McLean, 1978).

Expressions of conflict and anxiety about career paths that are not psychologically rewarding or demand a personal price of organizational conformity, time away from families, of an unpalatable organization role that one feels compelled to play are becoming more common. These may add a high factor of conflict to an already marginal adaptation of life in general of the individual. The responses to these anxieties are often directed towards the work place and seem to occur more frequently at the "midpoint" of career cycles when the reality of one's relative success or lack of success in life is recognized (Blalock, 1960).

From a business point of view, all of these considerations can lead to a less-than-effective individual in the work place with impacts on decreased productivity, health costs, morale of peers and/or subordinates involved, and the increased demand on management time for dealing with a troubled human resource.

Mid-career stress must be approached in two aspects: 1) a better understanding of the etiology and dynamics and 2) developing the best means for dealing with the realities of the symptomatology presented on an operational basis. Both approaches must consider the problem from a prophylactic and treatment point of view (Benner, 1984).

In dealing with etiology (cause), efforts must continue in the direction of the dynamics of the individual, but the dynamics of the organization within which the individual works also must be considered. Unlike memberships in other groups, one's membership in an industrial organization creates the perception of a much stronger bond and need to adapt. This is the result of the recognized ability of the work place to provide economic and social needs. Non-adaptive behavior in response to either real or imagined

organizational stimuli can have repercussions on the individual (French, Rogers, and Cobb, 1984).

The disassociation or desire to disassociate from a work group or job in mid-life because of inability or unwillingness to adapt to an uncomfortable role can be very traumatic. The results of such conflict manifest themselves in work relationships and also the quality of adaptation that the individual makes with the rest of his or her environment external to the work situation. The practitioner who deals with mid-career stress must learn to understand the dynamics and personality of the organization which contribute to and/or precipitate the anxieties of its members who find it difficult to adapt to the realities of the organization (Argyris, 1964).

We know, for example, that task ambiguity, job loading, lack of recognition and lack of autonomy can cause an individual who feels that autonomy should be a part of the work environment, varying amount of stress. We also know, however, that these variables do not cause stress in all individuals. There are some who thrive on difficult situations and perceive them as challenges to overcome (McLean, 1978).

The social phenomena contained within the culture of many organizations are also stress producers for some people. The organization can establish or imply a set of standard behaviors or expectations that again can be perceived as contrary to one's personal code of behavior or can produce conflict in time, allegiance and energies expended (World Health Organization, 1973).

This kind of pressure can produce stress in the industrial environment, particularly at the mid-career point where individuals often reevaluate their lives to see where they've been, where they are, and where they may perceive they are being forced to go. These variables, in addition to others, bear very strongly on the behaviors of people at work. Yet, few practitioners who deal with patients with work-related or precipitated anxiety

have a well-rounded understanding of organizational dynamics as they relate to their particular patients (Weiner, Akabas, and Sommer, 1983).

Not only must more be learned through expanded research about what specific variables can induce stress in what individuals in the work environment, but what means must be sought to convey to therapists and those dealing with industrial stress the realities of organizational dynamics and the practices engaged in by various management systems which result in mid-career stress. If these are better understood by therapists and counselors of individuals suffering from mid-career stress, they will be in a better position to help their patients achieve a more adaptive relationship with their work environment (Buck, 1982).

Since we are dealing with two highly complex and interactive systems, the individual and the work organization, it is suggested that it is of utmost importance that the organization, and its management representatives who deal with the human resource, increase their understanding of the role the organization plays in creating career stress (Knippel, 1980). Many managers are unaware of how their actions can create anxiety on the part of their subordinates. Even with today's improved attitudes and understanding of mental health, most managers are still uncomfortable in dealing with emotional problems expressed by their subordinates and would prefer not to get involved. This preference is not based on a learned negative attitude toward mental disorder, but is rather based on the recognition of their inability to deal with behaviors that are deviant from the norm. Dynamics of behavior in the human resource must be understood by managers in a manner which is conceptually equivalent to the manner in which they understand financial and physical resources. This does not mean that managers should become psychologists, psychiatrists, or para-professional therapists. It does mean, however, that if the human resource is to be managed better, those responsible for accomplishing objectives through

people within industrial organizations must gain a better understanding of how the human resource operates and what kinds of variables management and the organization contribute to the behavioral manifestations of the human organism (Argyris, 1984).

Managers can be taught to recognize significant changes in their subordinates' behavior as it relates to job effectiveness and how to deal with symptoms. Initially, mid-career stress, as is any other kind of work stress, is dealt with in relationship to changes in performance quality and quantity. Managers must also be taught how to recognize what they should not deal with in an employee. This means that managers should develop recognition and referral techniques and have the availability of professional services to refer to (Buck, 1982).

In addition to increased understanding of human resource dynamics, the reduction of mid-career stress, from an organizational point of view, must involve increased management insight into job structure, selection, placement, and techniques of managing. While management cannot motivate its human resource, it can influence individual motivation and attitudes towards work by the work environment it creates and the quality of leadership provided. The quality of leadership must be high in human resource management as well as business or technical management. While mid-career stress cannot be prevented by optimizing work-place perceptions and relationships, the severity of such stress can be reduced by minimizing contributing factors that are work related (Turner and Lawrence, 1986).

Why should we be concerned about mid-career stress now? As was pointed out earlier, there are more and more people coming into the age bracket which is commonly considered that of mid career. This means that a larger number of people who will react and respond to those middle year stressors in their total life environment. These responses will have outlets in the work environment which will affect interpersonal relationships,

productivity, and cost to the organizations in terms of the psychological costs of a disturbed individual affecting those in the immediate work environment, the cost of managerial time in dealing with such personnel problems, and finally the cost of treatment which will often be incurred by many organizations through their medical programs in dealing with these problems. These costs can be significant to the organization, as well as to the individual (McLean, 1988).

Stress Management: Concepts and Practice

Many, if not most business organizations have productivity and health problems related to occupational stress. When there is a significant degree of impairment of individual and corporate productivity, special efforts to mitigate stress and its negative effects may be warranted. Beyond that, a prime objective of stress management programs is to counteract the effects of inevitable stresses by an effort to enhance individual and group morale and thus to strengthen the individual's ability to cope. The morale of a group of workers often determines whether pressures to produce become an agreeable challenge or a disabling handicap. Factors that adversely affect morale include work overload, poor job fit, role conflict, and role ambiguity. An especially prominent factor is failure of recognition by supervisors of the workers' efforts (Peters and Waterman, 1982).

Segments of the work populations should be sampled to get first-hand information about work stress. Supervisors on the shop floor or first-line managers are often the best people to sample as they experience stress from the nature of the job, the mandates of senior management, and from subordinates who present their own unique problems. We know that one of the most stressful jobs is in the management of people rather than managing assets. It is the first-line manager's job to forge a work team from a group of individuals who have their own experiences, personalities and personal goals (Moss, 1981). The manager must help these employees define the work task, set mutual goals,

and work in a systematic way to accomplish these goals.

There are many kinds of measurements for occupational stressors. Kahn, Wolfe, and Dunn (1984) developed a 15-question scale for measuring work stress. This scale can be administered to any level of work group. Their questionnaire looks at role conflict, role ambiguity, work overload, recognition received, advancement issues, and work/family balance. The social readjustment rating scale of Holmes and Rahe is another measure for change both at work and at home for 12-month periods. The number of changes occurring in an individual's life has been found to correlate positively with the incidence of stress-related illnesses (Holmes and Rahe, 1976).

Simple measures directed at educating the managers and increasing their awareness of signs of stress among employees may be all that some companies require to head off unproductive morale problems. Establishment of hygienic programs of exercise, relaxation, and diet as well as counseling about smoking, alcohol, and drug abuse have also been found profitable in some companies. Others, after careful introspection, may elect to institute a more formal stress management plan. They may rely on their medical department to initiate such a process (Wolfe and Finestone, 1986).

The first step in program development aimed to assess and manage stress-related problems is to acquire or design educational materials to increase the general understanding of stress--what it is, and how it can affect health and job performance. This information is crucial for corporate decision-makers as they will decide to give or not to give their support to the education of employees in stress management. The next step is to evaluate the needs of the corporation and the needs of the individual workers.

Stresses may arise from (1) the kind of work being done, e.g., very aggressive marketing and selling as in a high-tech company; (2) the norms of the organization--where a chief executive officer (CEO) may value a high-pressure and rapidly changing

environment; (3) management styles where a highly competitive environment may create intense pressure. All three factors can be operating at the same time. In one large oil company, for example, prospective employees are expected to respond in the affirmative to the statement, "I work well under pressure" (Wolfe and Finestone, 1986).

Where pressure is valued as a motivator it may be difficult to obtain executive commitment to stress management programs. Success in the development and ultimate utilization of stress management programs depends on the following:

1. Educational materials to increase awareness and understanding of occupational stress throughout the organization. These may include films and other prepackaged health promotion materials, and articles in newsletters and bulletins.

2. Identification of needs.

3. Executive commitment to support the programs.

4. A cost-effective in-service training program.

5. Available resources for referral when needed.

6. A follow-up program for evaluation and to monitor change.

Executive commitment to stress management is indispensable; without it programs fail. Individual employees who go through a stress management program may benefit, but the organization will not appreciably change. A corporate inventory of the following health benefits can be useful in assessing needs:

1. Mental health insurance coverage

2. Regular health examinations

3. In-house medical services

4. Risk reduction and prevention (programs for hypertension, weight control, relaxation training, physical fitness)

5. Health promotion efforts

6. Counseling services

It may be advisable in certain organizations not to label stress management programs as such. While medical personnel may be sympathetic to stress-related symptoms and illnesses of employees, line executive may not be as they adhere to the myth that "admitting to experiencing stress implies that one cannot handle this job." Getting help to affected employees in this kind of setting may necessitate finding euphemisms for the programs such as "managing change" or "human resource maintenance" that do not directly challenge this myth (Kahn, Wolfe, and Dunn, 1964).

Services that may already be in place in some corporations can contribute to the alleviation of stress. For example, many companies have job performance and appraisal systems which are used to decide on merit increases in pay. Such appraisals also can be used as a coaching tool for the manager to help employees learn to solve their own problems. The yearly appraisal should not, however, be a substitute for more or less continuous or frequent monitoring of an employee's motivation, job performance, attitude, and task completion.

Once the desirability of instituting a stress management program has been accepted by the company and the needs peculiar to that organization have been identified, it may be appropriate to screen the employees for more specific information on which to design the program itself.

Screening

Screening procedures are many and varied. In one corporation, for example, an occupational questionnaire is administered and scored for every employee who participates in a periodic health examination program in the corporate medical department (Pelleprino and Seamonds, 1982). Other corporations use a paper and pencil test to measure job stress. It can be administered to all employees who utilize the employee assistance

program. Both low and high scores should be identified because those exposed to high on-job stress due to work overload, lack of recognition, etc., have been shown to develop similar symptoms to those who score on the low end which may indicate poor job fit, boredom, and underutilization (Weiman, 1977).

Having done the screening, the next step is an individual interview to pinpoint more precisely levels of stress, kinds of stressors, adaptive and maladaptive coping skills, and physical and psychological symptoms. During the interview an individual stress management plan can be fashioned to reduce the effects of stress and to promote optimal health practices such as regular exercise, relaxation breaks, and proper nutrition. Referrals to available resources, especially to a seminar in stress management, may be especially useful. Because some of the information obtained is personal, maintaining strict confidentiality is important. For this reason, it is appropriate to have an outside consultant conduct the interviews. An interview format requiring only 20 minutes, which has been used very successfully in a large financial institution with both domestic and international locations, is outlined below (Wolfe and Finestone, 1986):

1. Presenting problem.
2. Relevant history.
3. Health status (including habits).
4. Stress symptoms.
5. Life balance.
 - a. Nutritional status.
 - b. Exercise program.
 - c. Sleep pattern.
 - d. Recognition.
 - e. Environment.

- f. Support systems (family, work).
- g. Leisure time.
- 6. Major life changes--number and kind.
 - a. Death (spouse, family, friend).
 - b. Marriage, separation, divorce.
 - c. Community problems (work, spouse, family).
 - d. Change in health (family, self).
 - e. Change in financial status (up, down).
 - f. Sexual difficulties.
 - g. Birth of a child.
 - h. Problems with children.
 - i. Relocation.
- 7. Time management.
- 8. Referral.
- 9. Stress score.

Presenting Problem

What is going on in the employee's life and in the corporation? What is the course of the stress that he/she is currently experiencing? Are these stressors due to a faulty management style, attitude problems, or are they intrinsic to the job itself?

Here the interviewer is looking for the employee's awareness and understanding of work stressors and their effects. It is important to uncover "macho" attitudes and beliefs about work stress: "I can handle anything," "Nothing bothers me," "It is not okay to admit to having stress problems in this organization." The interviewer should recognize that it may not be politically wise in certain organizations to admit to work stress problems. He should therefore assure the employee that the content of the interview will be kept strictly

confidential (Waterman, 1982).

Relevant History

Of special concern are personal status loss from a demotion, a lateral move, or a decrease in responsibility. Other concerns may result from ambiguous assignments or over frequent changes such as reassignments and new bosses. Is the employee succeeding in meeting his own goals? How does his perception of the work compare to what his supervisors tell him?

Health Status

How healthy has the employee been in the past year? Does he/she have frequent colds and the flu? Are there recent behavior changes such as increases in smoking, overeating, alcohol intake, or changes in sleep patterns? Maintaining good health and good health habits affords protection against the strains and pressures of work. Indeed, "rejoicing as a strong man to run a race," the healthy, optimistic employee may thrive on the stresses of work.

Stress Symptoms

Often employees do not relate their symptoms to the kind of stress they are experiencing. There should be careful inquiry as to headaches, gastric problems, high blood pressure, and sleep disturbances as well as psychological symptoms such as irritability, withdrawal, and loss of sense of humor (Kahn, Wolfe, and Dunn, 1984).

Life Balance

How is the employee managing his life with regard to apportioning time and energy to work family and self? Does he examine and assess his priorities periodically? What motivates him to maintain a high level of output in his work as well as to manage people effectively? Does the work environment offer opportunities to further his skills and ambitions? Does the physical environment have adequate lighting, heating, air circulation,

privacy needs, etc.? Does the employee have friends, family, or bosses to whom he/she can turn for emotional support, confirmation of self-esteem, the discussion of problems, and receiving feedback? Is he maintaining interests outside of work (community affairs, hobbies, sports, etc.)? Often when interviewing in this area, serious gaps can be discovered, and a plan developed to round out these areas. For example, a 58-year-old executive who suffered personal status loss by being shifted laterally by a new young boss had become increasingly bitter, especially knowing he had to "stick it out" for 2 more years until retirement. The interview revealed that he had not made any plans for retirement and had few outside interests. His distress was considerably ameliorated when he agreed to get involved in preretirement planning and to pursue some specific outside interests (Peters and Waterman, 1982).

Major Life Event

Homes and Rahe (1976) devised a questionnaire to assess amounts of stress in various aspects of a person's life such as family problems, health, financial problems, and other adjustment problems. Some of the interview questions are derived from their work. The benefits of the interview when focused on these matters depend heavily on the skills of the interviewer and his/her ability to put the employee at ease and encourage his need to share his concerns.

Time Management

How well is the employee managing time? Does he/she need training in delegating, coaching, confronting, negotiating, or goal setting? "I don't have time to (exercise, eat properly, etc.)." These comments are more often than not a result of lack of skill in organization rather than lack of available time. In this part of the interview some assessment is made of the kinds of unproductive stress generated by inadequate skills, and how this lack of skills can create stress for the employee, the boss, and their subordinates.

For example, a 46-year-old executive who was working 14-hour days was frustrated with his job and finding much of it monotonous. It was learned during the interview that he was not delegating even routine tasks. He believed that he could best do the job himself and was unwilling to compromise by sharing his workload. Additional training in delegating and time management was offered and accepted with gratifying results.

Interview Synthesis

During the course of the interview described, a plan can be developed with an employee to recognize what his/her needs are and how he/she can best meet those needs in order to reduce the impact of identified stressors. It is clear that employees can manage much of their own health care by utilizing available resources.

A follow-up is indicated to assess the benefits of the interview, the success of the employee's efforts to manage his own stress, and the appropriateness of any referrals made. The information can be obtained through questionnaires or telephone calls some time after the interview.

Stress management programs can be conducted with small groups of executives (Pelleprino and Seamonds, 1982) where self- assessment and small group/work can enhance learning and retention. General and specific aspects of stress management can be discussed and experienced in a group setting. It is crucial, however, to build into the structure time for each participant to meet with the trainer on a one-to-one basis. It is essential that the employee feel free to express himself without fear or loss of image. It is evident that a trainer should have diverse and comprehensive skills in consulting, psychology, and interviewing with certainly some medical background.

Program design should be based on the needs of particular participants. That is why "canned" programs in stress management are not recommended. One relaxation method may not be applicable to a whole group of employees. There are, however,

commonalities in the area of stress management training that can be taught to most participants. Some general concepts include:

1. Helping the employee to understand himself by learning to assess strengths and weaknesses with regard to coping skills.
2. Identification of work and personal stressors.
3. Identification of impact of stressors.
4. Clarification of personal and professional goals.
5. Recognition of symptoms of stress reactions.
6. Understanding coping skills--both adaptive and maladaptive.
7. Learning to exert control over changes by pacing himself.
8. Establishing priorities.
9. Setting realistic goals.
10. Managing time effectively.
11. Getting the skills training needed--both professional and personal .
12. Developing a flexible style.
13. Evaluating and setting priorities periodically.
14. Learning to play, to relax, and to put things in proper perspective.
15. Developing personal coping skills such as exercise programs, relaxation methods, exercise, proper diet, and social networks.

The Control of Absenteeism

Occupational medicine has a growing responsibility to help employees stay well. There is an increasing need in the workplace for procedures to assess, educate and assist employees in an effort to promote optimal health. The corporate sector has a unique capacity to promote awareness of illness prevention and to take an active role in providing guidelines for employees to better manage much of their own health care.

A recent study released by the Bureau of National Affairs (Selye, 1986) showed that approximately 50% of worker absences can be avoided by corporations attending to employee needs - both physical and emotional. The study also showed that there is a positive correlation between absences and the attitudes of employees to their superiors. The results, based on responses from 137 personnel executives throughout the country, point to a need for illness prevention efforts in industry. Only one fourth of the firms responding had developed new programs such as job enrichment, worker participation programs, and occupational health programs (which may or may not include stress management) (Wolfe and Finestone, 1984).

The research described here was undertaken to determine if the illness absentee rate of corporate employees could be effectively decreased by intervention through a health evaluation interview-a new prevention program. One objective was to promote concepts of optimal health in the workplace among individuals who were not aware of these concepts or who were evidencing maladaptation to work stressors. An initial study of 500 employees was replicated with nearly identical results (Pelleprino and Seamonds, 1982).

The original study and the replication covered 1000 employees in a large financial institution, ranging from senior and middle management personnel to support personnel. The interview was done in conjunction with periodic medical examinations in the medical department, where 4000 medical examinations are done yearly.

Embedded in the medical history were 15 questions related to job stress, particularly questions concerning role ambiguity, role overload, recognition factors, and job suitability. These questions were as follows:

1. How often do you feel that you have too little authority to carry out your responsibilities?
2. How often do you feel unclear just what the scope and responsibilities of your

job are?

3. How often do you not know what opportunities for advancement or promotion exist for you?

4. How often do you feel that you have too heavy a work load, one that you could not possibly finish during an ordinary workday?

5. How often do you think that you will not be able to satisfy the conflicting demands of various people around you?

6. How often do you feel that you are not fully qualified to handle your job?

7. How often do you know what your superior thinks of you, how he evaluates your performance?

8. How often do you find yourself unable to get information needed to carry out your job?

9. How often do you worry about decisions that affect the lives of people that you know?

10. How often do you feel that you may not be liked and accepted by people at work?

11. How often do you feel unable to influence your immediate supervisor's decisions and actions that affect you?

12. How often do you not know just what the people you work with expect of you?

13. How often do you think that the amount of work you have to do may interfere with how well it is done?

14. How often do you feel that you have to do things on the job that are against your better judgment?

15. How often do you feel that your job interferes with your family life?

Each patient answered these 15 questions, resulting in a job stress score computed

as follows: employees were asked to indicate on a five-point scale (0 = never, to 5 = nearly all the time) their feelings with relation to each question. The average of these items was then computed for each individual and these averages resulted in the job stress score. Those who scored in the upper range were grouped with patients who scored in the lower range as stress-related signs and symptoms appeared in both groups.

Weiman (1987) showed that a disease/risk factor occurs more frequently when workers are either deprived of stimulation or are overloaded. His work confirmed Selye's (Selye, 1986) hypothesis, that deprivation as well as excess of stimuli is accompanied by an increase in stress. Therefore, employees with job stress scores greater than 2.5 (indicating overload) were grouped with employees whose scores were less than 1.3 (indicating deprivation of stimulation). The second group consisted of employees whose job stress scores fell in the middle range (indicating moderate job stress reactions).

The objectives of the project were to determine if intervention by interview would have any effect in reducing illness absentee rates; to provide information, educational materials and referral resources directed toward the reduction of stress-related symptoms; and to educate employees about the benefits of prevention as well as periodic medical examinations. Employees were selected for the preventive interview based on a fit with one or more of these criteria:

1. Job stress scores in the high and low range (<1.3 and >2.5)
2. Multiple symptoms that appeared to be stress- related.
3. History of frequent visits to the medical department.
4. Expressed job-related or personal problems accompanied by symptoms that appeared to be stress-related.

In an effort to screen employees who had identified job stress through the medical history procedure, the nurses and doctors in the medical department referred employees

whose job stress scores indicated stimulus overload (>2.5) or stimulus deprivation (<1.3) or who fit one or more of the screening criteria. The interview was then scheduled for these employees as part of the periodic examination. Others referred included employees who revealed personal problems, such as family, marital, or sexual concerns; those who had concerns for their job security or career paths, and those who indicated financial problems.

Twelve percent of the employees engaged in the interview had multiple symptoms that appeared to be stress-related, such as digestive complaints, frequent headaches, sleep disturbances, weight changes, anxiety, and fatigue. These symptoms, for the most part, were determined to be related to job stressors and/or personal stressors (Moss, 1981).

The interview was designed to identify the effects of job stressors on the individual employee. Severity of symptoms, the nature of the stressors and the employee's ability to cope with these stressors were evaluated. Physical, emotional, and cognitive needs were assessed as well as how successfully employees maintained a balance in their lives with regard to time for work, family, and self.

Knippel (1980) demonstrated in his medical assessments that "basic survival issues" such as nutrition, exercise, sleep patterns, recognition factors, and environmental factors must be accounted for when evaluating levels of health. Levi (1981) discussed the behaviors, both active and passive, that can determine stress reactions in the workplace. Inquiries about survival issues, work habits, attitudes toward superiors, and attendance were therefore included in the dialogue. Moss (1981) pointed out how change, transition and deteriorating support systems can increase vulnerability to illness. Thus items related to work and family pressures were also incorporated into the dialogue with life events and their effects on coping abilities from the Holmes and Rahe scale (Pelleprino and Seamonds, 1982).

Stress and Coping

A growing body of research links health and longevity with the absence of work stress and the presence of work satisfaction. For example, in a 15-year longitudinal study of aging, the strongest predictor of longevity was work satisfaction (Perlman, 1982). Increasingly social scientists cite the workplace as a point of health promotion (Bennet, 1984). Employers are beginning to see merit in health promotion programs, partly for humanitarian, altruistic reasons and partly because the costs associated with disability, death, and rehabilitation are so high. Adults spend about 40 percent of their waking life at work, therefore work is a prime target for health promotion (Kroll, 1970). The estimates of the costs of work stress are extremely high. For example, Greenwood (1977) estimated that the annual cost of executive stress is between \$10 billion and \$20 billion annually. This is a conservative estimate based upon lost work days, hospitalization, outpatient care, and mortality of executives. Regardless of the costs, most researchers agree that lack of stress management leads to poor quality of life and to poor health.

Occupational stress research is necessarily multidisciplinary. It is studied by epidemiologists, organizational sociologists, social psychologists, psychologists, occupational health workers, and by those interested in adult development and aging. The largest body of systematic research in stress and coping at work has come from social psychologists and has been based upon role theory (Kahn, et al., 1984; French, et al., 1984). Recently researchers have recommended that this perspective be broadened (French and Caplan, 1982).

French and Caplan (1982) call for a multidisciplinary approach to the study of stress in the work environment and acknowledge that stressors in the home and social environment can affect the individual in the work environment and vice versa. A list of potential stressors in three major life arenas are the home environment, (e.g.) marital

satisfaction, financial concerns; the social environment, (e.g.) social activities and relationships, urban versus rural living; and individual differences and determinants, (e.g.) personality, life history and events, Type A coronary-prone behavior patterns. These researchers' (French, Rodgers and Cobb, 1984) analyses of sources and consequences of stress drawn from the current research on work stress and coping emphasize the interdependent nature of stress in that stress in one arena affects others.

A number of researchers including Lazarus (1966; 1981), Perlin et al. (1981) view stress as a process. They too agree that the stress process is highly interactive and cannot be studied adequately when work is compartmentalized or limited to the work arena alone. Stress experienced at work affects one's homelife and influences other areas of life outside of work (House and Jackman, 1981).

Organizational Contributions to Burn-Out

The demographic and personality characteristics discussed are associated with burnout but are not necessarily the major contributors to its onset. Job and organizational characteristics typically play a larger role. There is no question that different work environments can significantly affect the incidence of burnout (Pines, Aronson, and Karfy, 1981). I will describe some of the more frequently cited of these characteristics, drawing upon the research and reviews of Veninga and Spradley (1981) and Pines (1982).

Work Overload

Everyone has experienced work overload at one time or another. It is not occasional overload that is the problem, however; rather, it is chronic overload, where for an extended period of time the individual feels constantly overloaded. Overload can be either quantitative or qualitative. Quantitative overload is associated with perceptions of too much to do, while qualitative overload is related to feelings of being unable to perform up to expected standards or of lacking the ability to do the job. Although either one or both

may be a factor in contributing to burnout, quantitative overload is probably a greater factor than qualitative. Pines (1982) reports that numerous studies have found relationships between overload and burnout. It is also true that overload tends to be an organizational fact of life in many of the helping professions, where burnout is a particular problem: too many patients to see (physicians, nurses); too many cases to handle (social workers, parole officers); too many papers to grade (teachers).

Dead-end Jobs

Increasingly in this country, we are educating more and more people to do less and less. That is to say, the emphasis that is placed upon the occupational and social desirability of obtaining the greatest amount of formal education possible has led to an increasingly higher percentage of young adults attaining high school degrees, undergraduate degrees, and graduate degrees. Couple this with the fact that jobs are becoming more specialized, and a state of affairs exists in which more complex (that is, more educated) people are being asked to perform less complex jobs. Some jobs that today call for a college degree called for a high school diploma a decade or two ago. The jobs themselves have not changed; what has changed is the educational level of the labor force. There are enough college graduates looking for jobs that employers can raise educational requirements and still fill positions. Unfortunately, the belief that a college-trained work force is better than a high school-trained one is not always valid-- particularly not if there are few or no advancement opportunities available.

Dead-end jobs contribute to stress and burnout by failing to fulfill the expectations of those who are hired to perform them. Veninga and Spradley (1981) suggest that such jobs contribute to burnout because they result in unrealized hopes for advancement, more freedom, increased earnings, and learning about and doing new things. When these expectations are not met, burnout is facilitated. Eventually, employees in dead-end jobs

may leave-- or worse yet, they may quit or file claims.

Excessive Red Tape and Paperwork

The feeling that one cannot do the job properly or effectively because the system will not allow it can be particularly frustrating and can contribute significantly to employee burnout. This feeling is especially prevalent in large, bureaucratic social service organizations, where many who leave report that they were driven out by the frustration of trying to respond to a client's need within the framework of a constraining governmental bureaucracy. According to Pines (1982), such organizations often generate so much paperwork that workers complain they are shuffling papers instead of treating or serving people. A special federal commission on paperwork, which examined one social service application process, described it as needlessly complex, unduly burdensome, inefficient, inequitable, and unnecessarily costly. The official concern for forms and routines creates special problems for the more caring and idealistic human service professionals, who feel they are becoming clerks instead of professionals. Paperwork is viewed by most of them as a needless waste of their time and emotional energy and as a senseless goal obstacle to their goal achievement (Matteson and Ivancevich, 1987).

It should be emphasized, of course, that governmental social service organizations are not the only ones to suffer from red tape and unnecessary paperwork; many private-sector employers have created bureaucratic structures that would rival the best-- or worst-- governmental organizations. Regardless of where it is found, organizational unresponsiveness and perceived unnecessary and unrealistic insistence on forms, procedures, and policies promote a fertile breeding ground for stress and burnout (Pines, 1982).

Poor Communications and Feedback

In a national study of over 450 medical technologists (Matteson and Ivancevich,

1987), we presented the participants with a list of twenty-two potential work-related sources of stress previously identified as relevant to the technologists' jobs and asked them to rank the list two ways; by how frequently they found that each potential stressor caused them stress and by how upsetting or distressing the experienced stress was. The list included such stressors as interpersonal conflicts, lack of advancement opportunity, role ambiguity, work overload, and constant interruptions. Lack of communication was ranked number one in terms of frequency by both a low-total-stress subgroup and a high-total-stress subgroup; in terms of intensity, the total sample ranked it number one as well. These findings are similar to many, many others. Consistently, communication problems and lack of feedback about job performance (which is a specific type of communication problem) are strongly implicated in stress and burnout.

Communication problems may be horizontal in nature--that is, between co-workers--or, as in the case of a lack of performance feedback, vertical in nature. Not only is faulty communication a contributor to burnout in its own right, it magnifies the effects of other contributors. Thus, if work overload is a problem, for example, the inability to satisfactorily discuss this with a superior because of faulty or nonexistent communication simply intensifies the problem. Once again, rigidly bureaucratic organizations tend to exacerbate communication difficulties, but they most certainly do not have a monopoly on them (Popwich and Wanous, 1982).

Stress can be thought of as a function of the quality of the relationship between individuals and the organizations they are members of. An important dimension of this relationship deals with the extent to self-learning and personal growth; relies on counseling, goal setting, and career planning; and assigns the evaluator the role of supportive counselor and encouraging person who listens, helps, and guides, while the subordinate is assigned an active major role in charting future job performance plans.

A developmental approach, coupled with the liberal -- but objective -- use of positive feedback can have a number of positive effects. It can change employee perceptions of lack of success on the job and provide an increased opportunity for the identification and discussion of concerns individuals have about the job, their specific role, and the extent to which there is a match between personal needs and job payoffs. All of these results may be important in forestalling burnout. Additionally, because the developmental approach includes goal setting and career planning, it provides a future orientation that tends to increase organizational commitment and lower feelings of depersonalization. The emphasis on positive feedback works to offset perceptions of low personal accomplishment. Finally, because the entire process is upbeat, positive, and structured to provide self-learning and positive growth, it has the overall effect of counteracting emotional exhaustion. Thus, the developmental performance evaluation provides management with a potentially powerful tool in combating burnout (Murphy, 1985).

Performance evaluation is not the only way in which supervisors can have a positive effect. Pine (1982) argues that since burnout is a function neither of the individual nor of the environment, but rather of the interaction between the two, positive supervisory practices that improve the quality of that interaction can serve to reduce burnout. Examples cited by Pine of characteristics that are correlated with low burnout levels supervisors can influence include the following:

1. Leadership that provides support, structure, and information.
2. Communication that is timely, appropriate, and accurate.
3. An environment that is planned, efficient, and orderly.
4. Workers who participate meaningfully in decision making.
5. Support and nurturing from supervisory staff.

6. Encouragement of employee creativity and innovation.
7. Peer friendship and support networks.

It is Pine's (1982) contention, and we agree, that supervisors can be instrumental in facilitating the development and maintenance of these characteristics. It may require a degree of creativity on the part of the supervisor faced with devising realistic mechanisms for influencing some of these characteristics, but the payoff to both employees and the supervisor is great. "The challenge of providing creative supervision includes helping the novice staff member develop investments in work responsibilities, enhancing the competence of advancing staff, and encouraging experienced staff to develop their own styles of supervision and consultation. Creative supervision does not originate with the supervisor alone...The interface between the organization and the individual is where scrutiny must be applied in detecting conditions that favor or thwart burnout" (p. 104).

The creativity to which Pine (1982) refers relates to facilitating the development and maintenance of the seven previously cited characteristics. It should not be assumed, of course, that the supervisor has sole, or even primary, responsibility for preventing burnout; that would be a most unfortunate and unfair conclusion. Everyone has a responsibility and a role to play in reducing the likelihood that burnout will become a problem. The supervisor is simply one player on the field, albeit a very important one.

Liability Issues

An employee suffers a nervous breakdown six months after being promoted into his dream job. Another worker is not able to work effectively following a co-worker's suicide on the job. Still another worker suffers nervous tics, insomnia, and emotional problems when unable to cope with a new modular office layout. These are the kinds of situations that are producing an increasing number of workers' compensation claims and common-law tort cases. The literature will present an overview of the legal aspects of

work-related mental stress, which are a growing concern for managers. The evolution of relevant law and how mental stress has become an issue that managers should not ignore will be discussed. In addition to tracing the evolution of law, a preventive law program that managers could adopt is outlined (Wolfe and Finestone, 1982).

Helen Kelly was accustomed to on-the-job stress at Raytheon Corporation, a Massachusetts-based maker of electrical goods; she trained other employees to assemble products. When Raytheon management decided to eliminate Kelly's entire department, her job tenure and good record earned her a transfer to another job in another department. There she developed chest pains (angina) and suffered an emotional breakdown. Helen had to stop working and soon filed a workers' compensation claim against Raytheon, charging that the job transfer had caused her problems. The Massachusetts Supreme Judicial Court ruled that Helen Kelly was entitled to \$40,000 because of her stress-related problem. Her breakdown was a "personal injury arising out of and in the course of...employment" the court explained (Kelly v. Massachusetts, 1985).

The Rhode Island Supreme Court, in a unanimous decision, ruled that workers in stressful jobs should be compensated for stress-related disabilities. An employer takes its workers as it finds them, Justice Thomas F. Kelleher wrote for the court, and when the employee aggravates an existing condition and the result is an incapacity for work, the employee is entitled to compensation for such capacity. The Rhode Island opinion upheld a ruling by the State Workers' Compensation Commission granting benefits to the widow of Edward F. Mulcahey, a sports editor of the Pawtucket (R.I.) Evening Times who died of a cerebral hemorrhage after covering a football game between the New England Patriots and the Philadelphia Eagles in Foxboro, Massachusetts.

The Commission ruled that Mr. Mulcahey's death was spurred by his job,

which involved odd and long hours and deadline pressures. The award to Ms. Mulcahey was \$55,000 in benefits, retroactive to her filing of the claim, and the weekly benefits of about \$185 for the rest of her life (Wolfe and Finestone, 1982).

Justice Kelleher spurned the newspaper's contention that there needed to have been a particular incident at the football game that caused the editor's death in order for his widow to recover damages (Mulcahey v. New England Newspapers, Inc., 1985). "The crucial issue," said the justice, "is whether there is a causal relationship or nexus between the work and the attack....In workers' compensation cases we do not equate the term 'causal relationship' with the term 'proximate cause' as found in negligence actions. Here, it is enough if the conditions and nature of the employment contribute to the injury" (Neale, et al., 1984, p. 13).

An independent medical examiner called in to assist in the resolution of the workers' compensation claim agreed that Cooper had "no significant lung disease at all and [was] not remotely disabled." The examiner considered Cooper to be suffering from conversion hysteria with moderate to marked depression and anxiety, which were in "no way industrial in causation and/or aggravation" but rather solely caused by a "mistaken diagnosis rendered to the patient...." (Neale, et al., 1984, p. 16).

A three-judge panel in California ruled that Billy Cooper developed a compensable psychiatric disability due to the erroneous diagnosis of asbestosis and should receive benefits. The judges ruled that if Billy Cooper had not been working for General Electric, he would not have received the medical examination. "Thus, but for the employment-related diagnosis of asbestosis, applicant's psychiatric disability would not have occurred," the ruling said (National Council on Compensation Insurance, 1985, p. 41).

These are only examples of the job stress-related legal claims and cases that are beginning to become more publicized. No one knows the total number of stress claims

filed before workers' compensation boards, cases decided under common-law torts, or cases settled out of court. However, the National Council on Compensation Insurance (NCCI) analyzed claims in thirteen states and found these facts: Mental (psychological) claims unlinked to physical injury began to appear in the late 1970s and accounted for 2.5 percent of all occupational disease claims by 1983--14.9 percent if you omit long-term diseases such as cancer. Women filed approximately half of the stress claims from 1980 to 1984, compared to only 24 percent of all other claims. The average stress claimant was 38.3 years old, compared with an average of 41.1 years for other claimants (National Council on Compensation Insurance, 1985).

These examples and statistics suggest that compensation boards, courts, and judges are being asked increasingly whether and under what circumstances job-related stress may be compensable. It has been suggested that highly publicized workers' compensation recoveries have spurred similar ("copy cat") claims. However, a significant portion of the increase in these claims may simply reflect the growing legal recognition of compensation for mental injuries in contexts other than workers' compensation. There is an increasing tendency in the law to allow tort recovery for both the intentional and negligent infliction of emotional distress. Previously, such tort recoveries were limited to narrow and extreme situations--for example, witnessing the killing of one's child.

Whatever the cause, the increase in job-related stress claims is likely to continue. The high percentage of claims by younger employees could indicate that the new generation of workers maturing into the work force are more prone to or less able to cope with stress--or at least are more willing to consider their psychological problems. The higher percentage of claims by women could indicate that the white-collar and service-industry jobs that have been attractive to young people and women are more likely to produce job-related mental stress claims than the "older," male-dominated, blue-collar

assembly-line jobs (Schwartz, et al., 1988).

Job-related mental stress claims turn up in most occupations. Claimants include professionals, technical workers, service-industry workers, and managers. Of course, not every psychologically impaired or stressed employee files a claim or seeks legal counsel, nor is it clear what percentage of psychological disability can accurately be attributed to workplace stress. But lawyers are certainly becoming increasingly involved, and the National Institute for Occupational Safety and Health has included psychological disorders on a recent list of the leading work-related illnesses and injuries and has targeted the reduction of stress in high- technology office jobs as a primary objective (Occupational Safety and Health Reporter, 1984).

Except where the employee's injury occurs as the result of the intentional conduct of the employer's activities, defenses are of little concern since most corporate liability in such cases is covered under no-fault workers' compensation statutes. Since only proof of injury is required for recovery and not fault, the use of legal defenses to liability is unnecessary. However, where common law rather than statutory recovery applies, as in the case of intentional conduct on the part of the employer or where a third party suit for medical malpractice is allowed against an occupational medicine physician, then the usual defenses such as assumption of risk and contributory or comparative negligence may apply (Kahn, Wolfe, and Dunn, 1984).

Intentional injuries (torts) in an occupational setting may consist of actions on the part of a physician where the proper care of the patient is compromised by an effort to protect the company. Some workers' compensation statutes include intentional torts within the scope of employment but most do not. Where such torts were not contemplated by the workers' compensation statute, common law recovery has been permitted. In one such case, the physician involved was held culpable of malicious malpractice because he

attempted to protect the corporation from having to pay the statutory recovery to which the employee was entitled. In other cases, deceit by the corporation or the occupational medicine physician was the basis for the intentional nature of the injury. In one case the corporation withheld information regarding the hazards of its product from their occupational medicine physicians, resulting in the continued exposure and injury to the employee (Kahn, Wolfe, and Dunn, 1984). In another case, where both a corporate physician and a social worker misrepresented to a worker his ability to return to work with resulting injury to the employee and his family, the court found that such activity was not protected by the workers' compensation statute of the jurisdiction and that there was both corporate and third party common law liability (Kahn, Wolfe, and Dunn, 1984).

Thus, when a corporation, attempting to control the professional activities of its physicians, becomes responsible for inappropriate care to its employees, it may well be found to have inflicted intentional injury upon them. On the other hand, when physicians care for corporate employees in such a manner as to place the interest of the corporation above that of their employee patients, even though they may have been accorded statutory protection under the jurisdiction's workers' compensation statute, they too may be found liable for intentional injury under a common law recovery (Wolfe and Finestone, 1986).

It is important to assess the effectiveness of any intervention program designed to address stress manifestations, in order to identify and make needed adjustments. If an organization identified a source of stress in the workplace, and tries to alleviate the problem, it must then determine whether the employees really do feel better or are less stressed as a result. The same type of information gathering and observation that were used in the original diagnosis may be appropriate for this step. If a company uses an audit or an attitude survey to diagnose the existence of stress, a follow-up to permit comparisons may be helpful. Do employees report more or less stress after the change? What stress

problems still remain? Have turnover, absenteeism, downtime, and scrap rate improved? Are grievances fewer?

Management should view the handling of stress-related liabilities as a process that includes problem identification, solution implementation, and follow-up, in which it evaluates the effectiveness of both the original diagnosis and the response. The process involves considerable trial and error. As Alan Tebb of the California Workers' Compensation Institute suggests, we may question whether the increase in stress-related claims is due to the developed diagnostic skills of physicians and lawyers, is an effective deterrent (quoted in Matteson and Ivancevich, 1987).

Today an increasing number of courts, having concluded that management has a responsibility for employee mental health, have asked what steps the company has taken to help an employee cope with stress. Documenting each step can help answer this question. In addition, organizations may want to involve legal counsel in monitoring needs and stress levels of employees, initiating and developing organizationally sponsored stress management programs, and evaluating the results.

But all levels of management should recognize that documentation is a two-edged sword. In the law, duty follows knowledge. A company must be committed to change before it collects information about employee health problems. Otherwise, it will be dangerously liable, for it will be documenting not only the problems but also the company's failure to address these problems. If documentation is to be legally beneficial, it must not be an end in itself but a reflection of efforts to manage or eliminate risks.

The manager's role as gate-keeper is not easy; it is difficult to determine whether a problem exists and which stressors have produced it. Just because someone shows symptoms of stress does not indicate that there is a work-related problem. However, as an employee shows symptoms that grow in frequency and intensity, there may be a need for

intervention. If the manager has collected data through monitoring, is observant and well-trained, and intervenes appropriately, he or she can help combat the steadily rising number of employee stress claims. To get help for an employee, a manager does not need to know the cause of stress. But court rulings and precedents suggest that managers should know the signs of stress and have access to professions for consultation and referral (Matteson and Ivancevich, 1987).

Reviewing and dealing with claims stemming from stress is not easy. Since workers' compensation claims are decided on a state-by-state basis, varying degrees of leniency exist. While the courts continue to debate the merits of such claims, a clear trend toward increasingly liberal compensation has developed. Still, whether employers and managers should bear the financial burden of stress-related disabilities remains an open question. Mental illness can be just as debilitating as a laceration or a fracture, but its causes are more complex.

As more lawyers specialize in job stress-related claims and lawsuits, employers may have a more difficult time deciding on a proper course of action. Managers cannot ignore these problems, because many jurisdictions obligate them to be knowledgeable about stress symptoms, trends in stress illness claims, workers' compensation laws, and important court rulings. More knowledge may now slow the trend in stress disability lawsuits, but it will permit managers to cope more effectively with the reality of employee claims (Wahlund, Ingrid, Nerell, and Gunner, 1985).

Instruments for Diagnosing Job Stress

There are numerous self-report questionnaires that may be used to assess varying aspects of stress or stress-related phenomena. The following discussions cover some of the more widely used instruments.

Stress Diagnostic Survey (SDS)

This is a multidimensional inventory designed to measure employee perceptions of stress in fifteen work-related areas, including time pressure, career progress, work overload, role ambiguity, supervisory style, and the organization's reward system. A major advantage of the sixty-item SDS is that it identifies specific areas of high stress rather than simply providing a global measure of the amount of stress. The SDS has demonstrated acceptable reliability and construct validity.

Life Events Scale (LES)

Also known as the Social Readjustment Rating Scale, this is one of the most widely used research instruments for studying the long-term effects of stress. It includes forty-three major life events that the respondent may have experienced in the recent past and that are thought to be significant stress producers (divorce, foreclosure of mortgage, death of a close friend, loss of employment). Only seven of the items pertain to work, however.

Hassles and Uplifts

This scale assumes that ordinary day-to-day hassles and uplifts have more significance than major life events in determining the long-range impact of stress. Hassles including losing things and traffic jams; uplifts include receiving good news and relating well with friends. There are 117 hassle items and 136 uplift items, and some of each are work-related.

Michigan Diagnostic Scales

These scales, developed as a result of many years of research, yield an indication of factors in the work environment that are perceived as being stressful. The principal variables include role ambiguity, work load, role conflict, responsibility for people, responsibility for things, participation, and work- group relations. Respondents rate each item on a five-point scale according to whether the item contributes a "very little" to "very

great" amount of stress. Reliability and validity are acceptable.

Maslach Burnout Inventory (MBI)

The MBI is a twenty-two-item measure that assesses burnout through the use of three subscales: emotional exhaustion, depersonalization, and lack of personal accomplishment. Each subscale yields two scores: frequency and intensity. The MBI is the most widely used burnout instrument and is particularly oriented toward members of occupational groups providing some form of service (nurses, teacher, counselors, and so on). The reliability and validity of the MBI are very acceptable.

Conclusion

The emerging realization that human behavior is the major reason for the most common and costly medical problems has brought the concept of behavioral medicine into prominence. As a new medical specialty its task is to evaluate the efficacy of techniques and devices that may help achieve behavioral changes that are conducive to health.

Medical diseases rooted in human behavior may be preventable with the proper educational strategy. Many industries have utilized wellness messages of various sorts and there are commercially distributed programs that still require verification of either medical or economic efficacy. In some executive settings, enormously expensive health facilities have been created without any confirmation of their effectiveness (Kasl, 1988).

Everyone was at equal risk to become sick in the past when most diseases were of an infectious nature. It was then fair for the majority to help pay for medical treatment for the minority who actually became sick. At present we are all not at the same risk for illness. Many current diseases are rooted in poor health habits. Some diseases are actually due to injuries that people, with full knowledge of the consequences, inflict on their bodies. One might now question the fairness of asking the majority to pay the medical bills for self-inflicted medical conditions. Financial incentives are effective in directing

people's behavior in many areas of life. It seems good business management to include some financial incentives in insurance coverage to encourage the maintenance of sound health habits (Kasl, 1988).

To document the effect of educational programs it is necessary to have a feedback system to monitor the habits of the target population. Because employers must normally ignore personal information not relevant to work, company-initiated studies must be anonymous and hence will not reveal unhealthy habits of specific individuals.

The empirical studies linking various sources of work stress to health have been yielding positive results faster than the theoretical notions of stress can accommodate. Increasingly stress is understood as a complicated and broad process (Lazarus, 1981; Pearlin et al., 1981). Stress research illustrates the human science predicament that there is no privileged position from which to study self-interpreting human beings. There are no deep or hidden rules, needs, drives, or traits that are interpretation-free. If there were needs or traits that were basic (that is, interpretation-free), then it would be plausible to design environments from the ground up that would accommodate these needs with the least amount of frustration and tension. This would be the world of total control and meaning would cease to be important. Such a totalitarian stance is steadfastly rejected even by social planners and for good reasons. The problem is not circumvented by studying beliefs or values because these cannot be studied from an objective or value-free stance. The stress researcher cannot stand outside the human condition and look in and discover that there is a perfect personality or perfect environment for perfect health, or even for homeostasis (Lazarus, 1980).

Stress research also illustrates the limits of formalism in studying everyday human practices, because these practices are nonobjectifiable. This problem is not limited to the impossibility of listing context-free variables; the limits of formalism are also encountered

when the researcher attempts to establish all the possible causal links, interactions, additive impacts, buffers, and other mediators between the individual and the situation (Lazarus, 1984).

Stress management programs can avoid prescribing context-free coping strategies by assessing individual coping episodes as was done in this study and designing stress management programs based upon the person's work meanings. This approach will require more interpretive studies of the interrelationship between stress and coping of people in real work settings. It will also require a nonpathological model of work stress so that work as a coping resource and the positive functions of work meanings are not overlooked due to the assumption that all workers are alienated or that work is inherently stressful. Also more study is needed to understand what facilitates and what hinders the acquisition of a cushion of experience. We have much to learn from those whose work has become less stressful over time in addition to those who have become more stressed.

Despite an increased academic understanding of the relationship between stress and coping, stress management programs remain limited and are valuable only for certain kinds of stress-related problems. Other stress and coping problems, although understood theoretically, aren't attended to practically. Furthermore, stress management interventions that fail to treat stress and coping as linked interpretive processes and that recommend coping strategies as an antidotes to stress regardless of the person's background meanings and context will have minimal impact at best. At worst, they will actually add to the person's stress.

Chapter 3

METHODOLOGY

The research methodology employed in this study is described and explained in this chapter. The methodology is discussed in the contexts of (1) research focus, (2) variables, (3) research design, (4) population and sample selection, (5) data collection and instrumentation, and (6) data analysis.

Research Focus

Three research questions were investigated in this study, and three related hypotheses were tested. These research questions, and the associated hypotheses, were as follows:

1. Are perceived stress levels affected by the job- related injury experience of an individual employee?

It is hypothesized that perceived stress levels will be higher among employees who have suffered a job-related injury.

2. Are perceived stress levels affected by the job classification of an individual employee?

It is hypothesized that perceived stress levels will be higher as the organizational hierarchical level of an employee's job classification descends.

3. Are perceived stress levels affected by the gender of an individual employee?

It is hypothesized that perceived stress levels will be higher generally among male employees than among female employees.

An effort was also made to develop a model that would permit the prediction of perceived stress among members of an organization. The predictor variables in this model were (1) the level of a subject's position in the organizational hierarchy, (2) the subject's job-related injury experience, and (3) the subject's gender.

Variables

The dependent variable in the analyses performed for this study was a subject's perceived level of stress. Perceived stress levels were numerical values assigned as the result of administration of the Life Events Survey, which is also known as the Social Readjustment Rating Scale (Holmes and Rahe, 1976).

The independent variables in the analyses were (1) the level of a subject's position in the organizational hierarchy, (2) the subject's job-related injury experience, and (3) the subject's gender. Organizational hierarchy classifications were (1) professional/managerial, (2) white collar clerical, (3) technical support personnel, (4) machine operators, and (5) laborers. The classifications of job-related injury experience were (1) injured and (2) non-injured. Gender was classified as (1) female and (2) male.

Research Design

Cluster sampling procedures were employed to permit the inclusion in the research sample of equal numbers of subjects representing the various classifications of each of the independent variables. The cluster sampling permitted the cross comparison of effects on perceived stress levels of the three independent variables. This design also facilitated the development of a stress level predicting equation.

Population and Sample Selection

The population from which the research consisted of the employees of firms in the San Francisco area that employed between 250 and 500 persons. A list of such firms was constructed, and random selection procedures were used to select firms from the list until eight such firms agreed to participate in the study.

Employee lists, categorized according to the three independent variables investigated in this study, were obtained from the participating firms. Random selection procedures were then applied to the lists to select 200 subjects from the relevant

population clusters. Usable data collection instruments were received from 111 subjects. The 111 subjects were distributed among the independent variable classifications as follows:

1. Organizational hierarchical level
 - a. Professional/managerial: 23 (20.7 percent).
 - b. White collar clerical: 21 (18.9 percent).
 - c. Technical support: 22 (19.8 percent).
 - d. Machine operator: 21 (18.9 percent).
 - e. Laborer: 24 (21.7 percent).
2. Job-related injury status:
 - a. Injured: 58 (52.3 percent).
 - b. Non injured: 53 (47.7 percent).
3. Gender:
 - a. Female: 53 (47.7 percent).
 - b. Male: 58 (52.3 percent).

Data Collection and Instrumentation

Survey questionnaires, together with instructions and stamped, addressed return envelopes, were mailed to the 200 individuals selected for the sample. The survey questionnaire was the Life Events Survey, a copy of which is included in this study as an appendix. The validity and reliability of the instrument, which measured perceived levels of stress, were established by the developers of the instrument (Holmes and Rahe, 1976).

Data Analysis

The three research hypotheses were tested through the application of multiple analysis of variance procedures (ANOVA) to the data. The ANOVA was structured to measure relationships between the independent variable and each of the dependent

variables, as well as the interactive effects of the independent variables on the independent variable. Statistical significance of the results of the data analysis were established at the $p < .05$ level.

Researchers and others use statistics in three general ways. These general ways are as follows:

1. Statistics are used to describe events. Descriptive statistics describe the performance or activity of one group or class, without attempting to make generalizations about other groups or classes.
2. Statistics are used to infer causes or future events. Inferential statistics permit the findings with respect to one set of relationships to be extended to other relationships and to generalize findings and conclusions on the basis of statistical inference.
3. Statistics are used to enhance the decision making process. Decision theory used in conjunction with statistics provides administrators, managers, professionals, researchers, and others with knowledge about events and relationships which reduce the level of uncertainty in the data upon which decisions are based, thereby improving the quality of decisions.

Inference is among the most important of the uses made of statistics. Hypothesis testing falls in the realm of inferential statistics. The basic theoretical principle upon which inferential statistics are based is probability. Probability is a number expressing the likelihood of occurrence of a specific event. For use in inferential statistics, this probability must be statistically independent.

In inferential statistical applications, probability is largely a function of sampling, as well as of relationships, because it is usually not feasible, or even possible, to measure an entire population. Thus, hypothesis testing is applied to sample data in inferential statistical applications.

It is with respect to samples and their characteristics, and their use in hypothesis testing, that the central theorem and central tendency measures are important. The central limit theorem holds that the totals (and therefore the means) of random samples will be normally distributed no matter what the distribution in the population is like, provided only that the samples are large enough. In most instances where inferential statistics are applied in hypothesis testing, population distributions are unknown. Therefore, the central limit theorem assumes a high-level of importance in hypothesis testing.

The principal techniques of statistical inference are interval estimation and hypothesis testing. Although statistical inference techniques are directly concerned with estimating values or with the testing of hypotheses concerning population parameters, the results of these procedures are related to alternative courses of action or to alternative decisions. As an example, the acceptance of a null hypothesis (or the inability to reject a null hypothesis) in statistical inference analysis which indicated that the sales level for a product will be below the break even point for that product would, also, typically be associated with a decision not to market the product.

Essentially, the choice between probability levels of Type I (Alpha) and Type II (Beta) errors is the basis on which the relative importance of two alternative types of mistakes are assessed in hypothesis testing in statistical inference analysis. In such analysis, decision procedures are based entirely on the analysis of data collected through a random sampling of the total population.

Perhaps the most important use of statistics and statistical procedures is the testing hypotheses--one of the procedures which permits the making of inferences. There are several statistical procedures which are used in the testing of hypotheses. Three procedures which are widely used are (1) ANOVA, (2) linear regression analysis, and (3) correlation analysis. Correlation analysis requires the application of linear regression

procedures.

Analysis of variance is a statistical technique that assesses the effects of one or more categorical independent variables (factors), measured at any level upon a continuous dependent variable that is usually assumed to be measured at an interval level. In other words, an attempt is made to explain the movement in a dependent variable through the analysis of movements in independent, or explanatory, variables. The interval level requirement for measurement of the dependent variable means that an equality of interval exists between the points on the scale with which the variable is measured.

A major difference between the analysis of variance procedure and regression analysis is that, in analysis of variance, the emphasis is on analysis of the variations in the independent variable, as opposed to the joint interaction of the variations in dependent and independent variables. One result of this difference in emphasis is that, in regression analysis, both the independent and the dependent variables must be measured on an interval scale, whereas, in analysis of variance procedures, only the dependent variable is required to be measured on an interval scale.

With respect to the development of an equation to predict perceived stress levels, regression analysis procedures were used. Linear regression, the most frequently applied form of regression analysis, requires that variable measurements be either interval or ratio (Summers, Peters, and Armstrong, 1992, p. 264). The independent variables in this study, however, were measured on a nominal scale, which means that numerical representations of the classifications of the variables were made arbitrarily, while the dependent variable was measured on an interval scale.

In linear regression, the data are fitted to a curve. When interval variables and nominal variables are included in a regression analysis, however, the pattern will more closely approximate that of a parabola than of a curve. Thus, the equation $Y = B_0 + B_1X$

$+ B_2X^2 + \epsilon$ must be used. This regression equation was used in this study to develop an equation for the prediction of perceived levels of stress based on the classification of an individual according to the independent variables examined in this study.

Chapter 4

FINDINGS

The findings of the research performed for this study are presented in this chapter. The initial set of findings is related to the research questions examined and the hypotheses tested in this study. The second set of findings is related to the development of an equation to predict perceived levels of stress.

Findings Related to the Research Questions and Hypotheses

Three research questions were investigated in this study, and three related hypotheses were tested. These research questions, and the associated hypotheses, were as follows:

1. Are perceived stress levels affected by the job- related injury experience of an individual employee?

It is hypothesized that perceived stress levels will be higher among employees who have suffered a job-related injury.

2. Are perceived stress levels affected by the job classification of an individual employee?

It is hypothesized that perceived stress levels will be higher as the organizational hierarchical level of an employee's job classification descends.

3. Are perceived stress levels affected by the gender of an individual employee?

It is hypothesized that perceived stress levels will be higher generally among male employees than among female employees.

Perceived Stress Levels and Job-Related Injury Status

Subjects who had experienced a job-related injury recorded much higher mean perceived levels of stress (507.8) than did non- injured subjects (287.0). The F-statistic for

the relationship between perceived stress levels and job-related injury status was, $F(1,90)=47.75$, $p<.05$. The relationship, thus, was statistically significant, and it may be inferred that job-related injury experience will be reflected in higher levels of perceived stress.

Perceived Stress Levels and Job Classification Status

White collar clerical subjects recorded the lowest mean perceived levels of stress (353.0), followed professional/ managerial (371.9), technical support (391.7), laborers (434.7) and machine operators (435.7). The F-statistic for the relationship between perceived stress levels and job classification status was, $F(4,90)=1.08$, $p<.05$. The relationship, thus, was not statistically significant, and it may not be inferred that job classification status will be reflected in differing levels of perceived stress.

Perceived Stress Levels and Subject Gender

Female subjects recorded much lower mean perceived levels of stress (358.6) than did male subjects (436.3). The F-statistic for the relationship between perceived stress levels and job-related injury status was, $F(1,90)=5.91$, $p<.05$. The relationship, thus, was statistically significant, and it may be inferred that female gender will be reflected in lower levels of perceived stress.

Interactive Effects on Perceived Stress Levels

The only interactive effects relationship that was found to be statistically significant was the relationship between perceived levels of stress and the combination of gender classification and job-related injury status. The F statistic for this relationship was, $F(1,90)=6.08$, $p<.05$. The mean perceived levels of stress involved, however, indicate that job-related injury experience is more relevant than is gender. Perceived levels of stress were 508.4 for injured females, 507.2 for injured males, 365.3 for non-injured males, and

208.7 for non-injured females.

Predicting Perceived Stress Levels

As the job classification status was found to have a not statistically significant relationship to perceived levels of stress (results of the ANOVA), only job-related injury status and gender were included in the regression equation as independent variables. The resulting predicting equation was as follows:

$$\text{Stress} = -532.2 + 420.8(\text{Injury}) + 175.0(\text{Gender}), \text{ where for injury, not injured} = 1 \\ \text{and injured} = 2, \text{ and for gender, female} = 1 \text{ and male} = 2.$$

Applying the predicting equation to a non-injured female subject provides a predicted perceived level of stress of 63.6, where as the mean sample level was 358.8. The predicted perceived level of stress for an injured female was 484.4, where the mean sample level was 508.4. The predicted perceived level of stress for a non-injured male was 238.6, where the mean sample level was 365.3. The predicted perceived level of stress for an injured male was 659.4, where the mean sample level was 507.2. The accuracy of the predictions in relation to the sample means ranged from 95.3 percent to 17.7 percent, with the greatest accuracy associated with injured subjects.

Chapter 5

SUMMARY AND CONCLUSION

The problems associated with organizational stress are many and varied, and research into the nature of these problems is often more effective when limited to the investigation of specific relationships, as opposed to an attempt to encompass the entire set of problems in a single study. Within this approach to research in organizational stress, this investigation was limited to the examination of perceived stress levels among employees and (1) the job-related injury experience of those employees, (2) the job classification of those employees, and the gender of those employees.

Based on the approach to the investigation of the problem described above, three research questions were formulated for investigation. These research questions, and the associated hypotheses, are as follows:

1. Are perceived stress levels affected by the job-related injury experience of an individual employee?

It is hypothesized that perceived stress levels will be higher among employees who have suffered a job-related injury.

2. Are perceived stress levels affected by the job classification of an individual employee?

It is hypothesized that perceived stress levels will be higher as the organizational hierarchical level of an employee's job classification descends.

3. Are perceived stress levels affected by the gender of an individual employee?

It is hypothesized that perceived stress levels will be higher generally among male employees than among female employees.

The dependent variable in the analyses performed for this study was a subject's perceived level of stress. Perceived stress levels were numerical values assigned as the

result of administration of the Life Events Survey.

The independent variables in the analyses were (1) the level of a subject's position in the organizational hierarchy, (2) the subject's job-related injury experience, and (3) the subject's gender. Organizational hierarchy classifications were (1) professional/managerial, (2) white collar clerical, (3) technical support personnel, (4) machine operators, and (5) laborers. The classifications of job-related injury experience were (1) injured and (2) non-injured. Gender was classified as (1) female and (2) male.

Cluster sampling procedures were employed to permit the inclusion in the research sample of equal numbers of subjects representing the various classifications of each of the independent variables. The cluster sampling permitted the cross comparison of effects on perceived stress levels of the three independent variables. This design also facilitated the development of a stress level predicting equation. ANOVA results found statistically significant relationships between perceived levels of stress and both job-related injury experience and gender. A predicting equation was developed to predict perceived levels of stress based upon subject gender and job-related injury experience. The accuracy of the predicting equation in relation to sample means ranged from 95.3 percent to 17.7 percent, with the greatest accuracy associated with injured subjects.

It was concluded that organizational managements would be well advised to establish assistance programs for employees with job-related injury experience. It is these employees who are at greatest risk for the development of harmful (to both employees and organization) stress. It was concluded further that the predicting equation may be usefully applied as a preliminary indication of perceived stress levels among employees with job-related injury experience.

REFERENCES

- Argyris, C. (1984). Integrating the individual and the organization. New York: John Wiley.
- Benner, P.E. (1984). Stress and satisfaction on the job. New York: Praeger Publishers.
- Blalock, H. M. (1960). Social statistics. New York: McGraw-Hill.
- Bowers, D. G. (1983). What would make 11,500 people quit their jobs? Organizational Dynamics, 11(3), 5-19.
- Buck, U.E. (1982) Working Under Pressure. London Staples Press.
- French, J. R. P., Rogers, W., & Cobb, S. (1984). Adjustment as person-environment fit. In J. G. Coelho, D. A. Hamburg, and J. E. Adams, (Eds.). Coping and adaptation (pp. 215-2199). New York: Basic Books.
- Gaines, J., & Jermier, J. M. (1983). Emotional exhaustion in a high stress organization. Academy of Management Journal, 26(4), 44-53.
- Garfield, J. (1985). Social stress and medical ideology. In Stress and survival (3rd ed.) (pp. 111-134). St. Louis: The C. V. Mosby Company.
- Greenwood, J. W. (1977). Exploring executive stress: A general systems approach. An unpublished doctoral dissertation, Pace University.
- Harrison, R. V. (1988). Person-environment fit and job stress. In J. E. Cooper, & R. Payne, (Eds.). Stress at work (pp. 74-87). New York: Wiley and Sons.
- Hinkle, L. E., Jr. (1987). Stress and disease: The concept after 50 years. Social Science in Medicine, 25(6), 561-566.
- T. Holmes, & R. Rahe, (1967). The Social Readjustment Rating Scale. Journal of Psychosomatic Research.
- House, J.S., & Jackman, J.F. (1981). Occupational stress and health. In P. Ahmed, and C. Coehlo, (Eds.). Toward a new definition of health: Psychosocial dimensions (pp. 26-27). New York: Plenum.
- Kahn, R., Wolfe, D., & Dunn, R. (1984). Organizational Stress. New York, John Wiley & Sons.
- Kasl, S. L. (1988). Epidemiological contributions to the study of work stress. In C.L. Cooper, & R. Payne, (Eds.). Stress at work (pp. 3-48). New York: John Wiley.
- Knippel, G. (1980). The survivors checklist. Journal of Applied Rehabilitation, 14(2), 17-21.
- Langner, T. S., & Michael, S. T. (1963). Life stress and mental health. Toronto: The Free Press of Glencoe.

- Lazarus, R.S., (1981). Little hassles can be hazardous to health. Psychology Today, 15, 58-62.
- Lazarus, R. S. (1984). On the primacy of cognition. American Psychologist, 39, 124-129.
- Lazarus, R. S. (1966). Psychological stress and coping process. New York: McGraw-Hill.
- Levi, C. (1981). Society, stress & disease: Working life, 41(9), 62-65.
- MacBride, A. (1984). "High-stress" occupations. In R. J. Burke, (Ed.). Current issues in occupational stress (pp. 1-24). Toronto: York University.
- Maes, S., Vingerhoets, A., & Heck, G. V. (1987). The study of stress and disease: Some developments and requirements. Social Science in Medicine, 25(6), 567-587.
- Matteson, M.T., & Ivancevich, J.M. (1987). Controlling stress: Effective Human Resources & Management Strategies: San Francisco: Jossey-Bass Inc. Publishers.
- McLean, A. (1988). Reducing occupational stress. Washington: U.S. Government Printing Office.
- Mirabile, R. J. (1983). Stress management training in the banking profession. Training and Development Journal, 37(8), 44-49.
- Moss, L. (1981). Management stress. Reading, Massachusetts, Addison-Wesley Publishing Co., Inc.
- Murphy, L. R. (1985). A review of organization stress management research: Methodological consideration. Journal of Organization Behavior and Management, 14(2), 26-27.
- National Council on Compensation Insurance. (1985). Emotional stress in the workplace: New legal rights in the eighties. New York: National Council of Compensation Insurance.
- Neale, M.S., Singer, J. A., Schwartz, G. E., & Schwartz, J. (1984). Conflicting perspectives on stress reduction in occupational settings: A systems approach to their reduction. Cincinnati, Ohio: National Institute of Occupational Safety and Health.
- Parasuraman, S., & Alutto, J. (1984). Sources and outcomes of stress in organizational settings. Academy of Management Journal, 27(2), 45-67.
- Pelleprino, J., & Seamonds, B. (1982). Managing stress is good business. Washington, National Mental Health Association.
- Peters, Thomas, & Waterman, R. (1982). In search of excellence from America's best run companies. New York: Harper & Row.
- Pines, A., Aronson, E., & Kafry, D. (1981). Burnout: From tedium to personal growth. New York: Free Press.

- Popovich, P., & Wanous, J. P. (1982). The realistic job preview as a persuasive communication. Academy of Management Review, 1, 570-578.
- Schwartz, R.M., Murphy, L.R., & MacLeod, A. (1988). Conference on occupational stress. Los Angeles: Conference on Occupational Stress.
- Seamonds, B. (1982). Stress factors and their effect on absenteeism in a corporate employee group. Journal of Occupational Medicine, 24(1), 32-34.
- Selye, H. (1950). The stress of life. New York: McGraw-Hill Book Company.
- Selye, H. (1974). Stress without distress. Philadelphia: J.B. Lippincott Co.
- Summers, G. W., Peters, W. S., & Armstrong, C. P. (1992). Statistics in business and economics. Belmont, California: Wadsworth Publishing Company.
- Turner, N.A., & Lawrence, P.R. (1986). Industrial jobs and the worker. Boston: Harvard University Press.
- Veninga, R. L., & Spradley, J. (1981). The work/stress connection: How to cope with burnout. Boston: Little, Brown and Company.
- Wahlund, Ingrid, Nerell, & Gunner. (1985) Work environment of white collar workers. Boston: Harvard University Press.
- Weiman, C. (1987). A study of occupational stressors and the evidence of disease/risk. Journal of Occupational Medicine, 2(3), 44-45.
- Weiner, H. J., Akabas, S. H., & Sommer, J. J. (1983). Mental health in the world at work. New York: Association Press.
- Wolfe, S., & Finestone, A. J. (1986). Occupational stress: Health & performance at work. Littleton, Massachusetts.
- World Health Organization. (1983). Occupational mental health. Geneva, Switzerland: World Health Organization.

Appendix

1. Life Events Survey

Instructions: Please circle the life events that occurred during the previous year and the "mean value" for each item circled. Add all mean values. If an event occurred more than once, then multiply the number of occurrences by its mean value. Thus, if you were divorced twice during the 1-year period, then the score for "Divorce" is $2 \times 73 = 146$.

<u>Life event</u>	<u>Mean value</u>
Death of a spouse	100
Divorce	73
Marital separation	65
Jail term	63
Death of a close family member	63
Personal injury or illness	53
Marriage	50
Fired at work	47
Marital reconciliation	45
Retirement	45
Change in health of a family member	44
Pregnancy (score applies for both spouses)	40
Sexual difficulties	39
Gain of a new family member	39
Business readjustment	39
Change in financial status	38
Death of a close friend	37

<u>Life event</u>	<u>Mean value</u>
Change to a different line of work	36
Change in number of arguments with spouse	35
Mortgage over \$10,000	31
Foreclosure of mortgage or loan	30
Change in responsibilities at work	29
Son or daughter leaving home	29
Trouble with in-laws	29
Outstanding personal achievement	28
Spouse began or stopped work	26
Began or ended schooling	26
Change in living conditions	25
Revision of personal habits	24
Trouble with boss	23
Change in work hours or conditions	20
Change in residence	20
Change in schools	20
Change in recreation	19
Change in church activities	19
Change in social activities	18
Mortgage or loan less than \$10,000	17
Change in sleeping habits	16
Change in number of family get-togethers	15
Change in eating habits	15
Vacation	13

<u>Life event</u>	<u>Mean value</u>
Christmas	12
Minor violations of the law	11
Total score: _____	

2. Life Hassles Checklist

Check those things which are of present concern to you:

- _____ my weight
- _____ home maintenance
- _____ too many things to do
- _____ property, investments, or taxes
- _____ crime

Total number of checks _____ enter _____ → _____

3. Perceived Stress

Check all that apply to you:

- _____ I see that I have too much to do
- _____ I appear to be working harder and accomplishing less
- _____ The people I work with seem not to like me

Total number of checks _____ enter _____ → _____

4. Symptom Checklist

Check those things which you've experienced more than usual this year:

- _____ shallow breathing
- _____ headaches
- _____ backaches
- _____ diarrhea

More items to Question 4 on following page

Question 4, continued:

- ☐ insomnia
- ☐ irritability
- ☐ worry
- ☐ inattention
- ☐ forgetfulness

Total number of checks _____ enter _____ → _____

5. Personality Characteristics

Check those qualities which describe you:

- ☐ competitive
- ☐ outgoing
- ☐ hyperalert
- ☐ impatient
- ☐ strong desire to control your environment

Total number of checks _____ enter _____ → _____

6. Coping Style

Check those that apply to you:

- ☐ I usually do not roll with the punches when problems come up
- ☐ I often do not recognize and accept my own limitations

Total number of checks _____ enter _____ → _____

7. Person/Environment Fit

Check those that apply to you:

- ☐ Often on my job, I bite off more than I can chew
- ☐ In what I choose to do from day to day, I usually seem in over my head

Total number of checks _____ enter _____ → _____

8. Social Support

Check all that apply to you:

_____ I am not presently married

_____ I do not have at least several friends

_____ I could not get emotional support from others if I needed it

_____ I am a working parent

Total number of checks _____ enter _____ → _____