

OCCUPATIONAL STRESS AND JOB SATISFACTION
RELATED TO MANAGEMENT STYLES OF
AMERICAN- AND JAPANESE-OWNED COMPANIES IN AMERICA

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DEDICATION

To Lottie E. Havens, my Godmother, whose love and unwavering confidence have sustained me throughout my life.

To the memory of James E. Garrison, and to his children and their spouses (Tom, my husband, John and Carol, Jim and Mary, Mary and Ken, Paul and Becky, and Paula and Tommy) who have become such a valuable part of my life; and to Martha E. Brown, whose enthusiasm for this project has, upon a few occasions, exceeded my own.

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Occupational stress and job satisfaction are of concern to many groups: health educators, health professionals, corporate executives, and managers. The impact of various management styles, including the Japanese management style, has been debated. This study was conducted to evaluate the differences in the occupational stress and job satisfaction levels of employees of a Japanese-owned and -managed company (Company J) and of an American-owned and -managed company (Company A). Both companies were located in the north Texas region. A total of 97 usable responses to questionnaires was received; 48 from Company A and 49 from Company J. Analysis of the data indicated that the employees from Company J experienced significantly greater occupational stress than those from Company A with regard to 8 of 15 stress subscales. Significant results were obtained for 3 of the 15 stress subscales when analyzed by ANOVA with interaction. Exempt

employees of Company J reported greater job stress than exempt employees of Company A and nonexempt employees of Company J. Exempt employees of Company A reported less job stress than their nonexempt co-workers. Significant correlations were found among the 5 subscales for job satisfaction and the 15 subscales for occupational stress.

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CHAPTER I

INTRODUCTION

The introductory section establishes the significance of occupational stress to health educators and other health professionals. Management style is identified as a variable that has significant impact on occupational stress. The assumptions, definition of terms, hypotheses, delimitations, and limitations of the study are presented.

Introduction

Stress has been of great concern to health educators and other medical professionals for over three decades. Selye defined stress as "the nonspecific response of the body to any demand" (1956, p. 55). Selye was the first to describe the General Adaptation Syndrome, and to determine that stress causes measurable effects within the body. The physiological effects of stress are known to include irritability, tachycardia, inability to concentrate, and insomnia. He found that stress predisposes individuals to experience diarrhea, indigestion, migraine headaches, and peptic ulcer disease (Selye, 1956).

Health professionals have been emphasizing stress reduction for their clients as a result of the strong relationship between stress and cardiovascular disease. Researchers (Goldberger & Breznitz, 1982; Selye, 1956) have discovered relationships between stress and hypertension, stress and hypercholesterolemia, as well as stress and increased smoking behavior, which are the leading risk factors for heart disease and stroke. Cardiovascular disease continues to be the leading cause of death and disability in the United States (American Heart Association [AHA], 1989). Deaths attributed to cardiovascular disease in 1987 totaled 976,700, or 45.9% of all deaths reported in the United States of America. The AHA indicated that one in four Americans, nearly 67 million individuals, suffers from some form of cardiovascular disease. The cost of cardiovascular disease in 1990 was estimated by the AHA to be \$94.5 billion. "This figure includes the cost of physician and nursing services, hospital and nursing home services, the cost of medications, and lost productivity resulting from disability" (AHA, 1989, p. 3).

Within the past decade, as a result of concerns regarding occupational stress, corporate leaders and managers have joined health professionals in their concern

about stress. Occupational stress has been linked to absenteeism, decreased productivity, increased health care costs, and illness. According to Smith and Pasen (1988), job stress has cost American industry at least \$150 billion annually.

Legal recourse continues to be sought increasingly for stress endured in particularly unpleasant work situations. "In 1987, Americans filed a record number of stress-related workers' compensation claims...they accounted for 14 percent of occupational disease claims, up from less than 5 percent in 1980" (Miller et al., 1988, p. 41). Management style has been considered one of the major contributors to the stress experienced by employees, with the relationship of an employee to his/her boss having been cited as the top stress-producing factor (Miller et al., 1988).

Statement of the Problem

This investigation explored the relationships among the variables of management style, occupational stress, and job satisfaction. These variables were evaluated in order to test empirically the effect of the Japanese management style, as implemented in a Japanese-owned company in the United States of America, on occupational

stress and job satisfaction. The study analyzed data collected from a Japanese-owned and -managed company and an American-owned and -managed company to determine if either Japanese or American management style was associated with less stress or more job satisfaction.

Purpose of the Study

The purpose of this study was to quantify the levels of job satisfaction and occupational stress among employees of a Japanese-owned and -managed company in comparison to those of an American-owned and -managed company, and to explore the importance of a number of job satisfiers for each group of workers.

Hypotheses

The following null hypotheses have been tested at the .05 level of significance:

1. There will be no significant difference in the level of overall job satisfaction experienced by workers in a Japanese-owned and -managed company as compared with workers in a similar setting with traditional American management, when measured with respect to each of five employee needs.

2. There will be no significant difference in the levels of occupational stress reported by workers in a Japanese- versus an American-owned and -managed company with respect to each of the 15 subscales of the Stress Diagnostic Survey.

3. There will be no significant difference in the importance placed on job satisfiers reported by workers in Japanese- versus American-owned and -managed companies.

4. There will be no significant relationship between levels of job satisfaction and levels of job stress among employees of Japanese- and American-owned and -managed companies.

5. There will be no significant relationship between selected individual demographic variables and the levels of overall job satisfaction among employees of Japanese- and American-owned and -managed companies.

6. There will be no significant relationship between selected individual demographic variables and the levels of occupational stress among employees of Japanese- and American-owned and -managed companies.

7. There will be no significant relationship between the job classification and the reported level of stress among employees of Japanese- and American-owned and -managed companies.

Background and Significance

Management style has been the topic of a significant number of books during the 1980s (Bennis, 1989; Blanchard & Tager 1985; Lippitt, 1982; Ouchi, 1981; Peters & Austin, 1985; Ziglar, 1986) which address management style as a prime factor adversely affecting productivity, innovation, absenteeism, employee stress, and job satisfaction. These authors repeatedly compared the Japanese management style and its results with the American management style. When nations are evaluated by the gross national product (GNP), it is apparent that soon Japan will be the leader. "In 1980, Japan's GNP was the third highest in the world...and will be number one by the year 2000" (Pascale & Athos, 1981, p. 20). According to these authors, the major reason for the growing superiority of the Japanese companies is their management skill.

Given the fact that occupational stress has been a serious problem for the health of American workers and for the economic bottom line of American companies, it has become important to determine methods by which stress levels can be reduced or managed. The Japanese management style, also known as the Nenko system, has been identified as an approach that could result in a positive impact on the stress levels of workers and on the productivity of

American companies. The effect of the Nenko system in the United States has been modified by the prevailing attitudes and beliefs held by the population of workers in American companies, and little empirical research has been done to establish whether the methods which work in the Japanese culture have achieved the same positive effects in America (DeFrank, Matteson, Schweiger, & Ivancevich, 1985).

Definition of Terms

For the purposes of this study, the following terms were defined:

1. American-Owned and -Managed Company/Company A. A company in the United States of America (USA), with its parent corporation located in America, which was managed at the top level by an individual of American nationality. In order to protect the anonymity of the participating company, the American company has been referred to as "Company A" for the remainder of this study.

2. Japanese-Owned and -Managed Company/Company J. A company in the USA with its parent corporation located in Japan, which was managed at the top level by an individual transferred from Japan for this leadership role. In order to protect the anonymity of the participating company, the

Japanese company has been referred to as "Company J" for the remainder of this study.

3. Job Classification. The designation of positions as either exempt (salaried) or nonexempt (hourly), according to federal regulations and company policy.

4. Job Satisfaction. The degree to which the job-specific needs of an employee have been met by the work situation, as indicated by the Employee Needs Questionnaire which measures the following five factors of employee needs: security, social, autonomy, esteem, and self-actualization.

5. Job Stress. The extent to which job-related situations have been perceived as stressful by the employee, as indicated by the Stress Diagnostic Survey which measures the following 15 categories of stressors: politics, human resource development, rewards, participation, underutilization, supervisory style, organizational structure, role ambiguity, role conflict, overload qualitative, overload quantitative, career progress, responsibility for people, time pressure, and job scope.

6. Job Type. The designation of positions according to type of work performed, including clerical,

manufacturing, accounting, sales, research and development, administration, and "other."

Limitations

The study was subject to the following limitation:

The presence of American middle managers in a Japanese-owned company may have produced a moderating effect on the implementation of Japanese management practices.

Delimitations

The study was delimited by the following:

1. The population consisted of employees of two companies, one American-managed and one Japanese-managed, located in the North Texas region.
2. Japanese workers were not included in the sample selected for the Japanese-owned and -managed company, due to the likelihood that they would be disproportionately represented and thus skew the data.
3. The two companies selected for the study were chosen by the first response of willingness to participate.

4. The subjects of the study were limited to those employees with the ability to read and comprehend the English language.

5. No unionized companies were considered for inclusion in the study.

Assumptions

The following were assumed for the purposes of this study:

1. An American management style was present in any company that was owned and operated by a corporation having its home office in the USA, and having as its top manager an individual of American nationality who had been educated in the USA.

2. A Japanese style of management was present in any company which was owned and operated by a corporation having its home office in Japan, and having as its top manager an individual of Japanese nationality who had been educated in and transferred from Japan for the purpose of managing the company located in the USA.

Summary

The significance of the problem of occupational stress for health education has been established. Several authors have implicated management style as an important variable impacting occupational stress, and the Japanese management style has been presented as a particular style which has warranted further empirical study. The study has been delineated, and assumptions, definition of terms, hypotheses, delimitations, and limitations have been stated.

CHAPTER II

REVIEW OF THE LITERATURE

This study was undertaken in order to evaluate empirically the presence or absence of relationships among the variables of occupational stress, job satisfaction, and management style, specifically Japanese and American styles as implemented in the United States. A thorough review of the literature was conducted, and important concepts and studies have been reported in this chapter. This information has been organized under the following categories: (a) Stress and the General Adaptation Syndrome, (b) Occupational Stress, (c) Job Satisfaction, (d) Historical Review of Management Philosophies, and (e) American and Japanese Management Styles Contrasted.

Stress and the General Adaptation Syndrome

Stress, by definition, is "the nonspecific response of the body to any demand" (Selye, 1976, p. 55). Both positive and negative demands have been found to produce stress and, while a certain amount of stress can act as a motivating factor and increase productivity, too much stress or continuous stress can result in what Hans Selye

(1982), the father of stress research, described as the diseases of adaptation, including peptic ulcers in the stomach and upper intestine, high blood pressure, cardiovascular disease, and nervous disturbances. Selye's early research with rats indicated that these conditions resulted from a triad of changes induced by stress, including enlargement of the adrenal cortex with a resultant increase in the production of adrenocorticotrophic hormone; atrophy of the thymus, spleen, and lymph nodes which reduced the immune response of the body; and ulceration of the lining of the stomach.

Selye referred to the entire process that the body undergoes as the General Adaptation Syndrome (GAS). The GAS consists of three separate stages: alarm reaction, stage of resistance, and stage of exhaustion. Humans have arrived at the close of the 20th century by being extremely adaptive to forces influencing their well-being and survival. In the early stages of confrontation with a stressor, the body responds by shunting blood supply to the muscles and away from the gastrointestinal tract, thereby increasing circulating levels of blood glucose through the process of gluconeogenesis, and increasing blood pressure and heart rate. These changes prepare the individual for "fight or flight," which has been

beneficial for survival. As Selye stated, "Adaptability is probably the most distinctive characteristic of life....None of the great forces of inanimate matter are as successful as that alertness and adaptability to change which we designate as life--and the loss of which is death" (Selye, 1974, p. 56).

Occupational Stress

By definition, occupational stress is a perceived, dynamic state of uncertainty about something important to the individual's work status. It can be both positive and negative. "Most importantly, however, it is a dynamic condition most individuals seek to avoid, resolve, or take advantage of" (Sethi & Schuler, 1984, p. 38).

There are four major reasons for organizations to be concerned about occupational stress, including: general concern for the health of employees; financial impact of health care for peptic ulcers, coronary heart disease and back pain; organizational effectiveness; and legal compliance with worker compensation programs. Organizations have become concerned about more than just monetary profit. Employee satisfaction, health, accidents on the job, employee turnover, absenteeism, and

productivity have been included in a broader evaluation of success and return on investment.

Organizational Impact of Occupational Stress

The organizational impact of occupational stress was well illustrated by Donatelle and Hawkins (1989) in their model of the stress claim chain of events. The model is comprised of four phases: Phase I consists of (a) dysfunctional personal behaviors, (b) dysfunctional environmental conditions, and (c) dysfunctional organizational activity. Phase II consists of (a) job dissatisfaction, (b) depression, (c) anger and hostility, (d) substances abuse, (e) low productivity and inefficiency, (f) absenteeism, and (g) high risk behaviors. Phase III consists of (a) injury, (b) illness, and (c) disability. Phase IV involves job-related stress claims.

In order to prevent stress claims, Donatelle and Hawkins (1989) advocated the implementation of Employee Assistance Programs (EAPs) to provide social support, to provide counseling for substance abuse and interpersonal problems, and to foster communication skills and appropriate coping skills. Wellness programs which address the issues of health risks also were recommended as a way to increase overall health of the organization.

Of course, the actual physical safety of the environment was identified as an area to be evaluated in order to provide for physical or ergonomic improvements. The authors also counseled management to evaluate carefully the management style, corporate culture, and job demands in order to assist with the minimization of stress-related problems within the organization.

The financial impact of stress and stress-related conditions can be evaluated quite objectively, as they have robbed American businesses of billions of dollars annually. Smith and Pasen (1988) reported on a study done by the National Institute for Occupational Safety and Health (NIOSH), which documented that "job stress costs American industry at least \$150 billion annually in absenteeism, diminished productivity, compensation claims, health insurance, and direct medical expenses" (p. 7). The NIOSH study also identified several other significant factors including: (a) 75-90% of visits to primary care physicians were due to stress-related problems; (b) up to 85% of work-related injuries could be linked to stress-related factors such as fatigue, inattentiveness, and poor concentration; and (c) more than 60% of long-term disability cases involved psychological problems (cited in Smith & Passen, 1988).

The Occupational Health and Safety Act of 1970 (OSHA) made organizations legally responsible for employees' mental and physical health. The employer became responsible not only for physical injury, but also for sociopsychological conditions causing mental or physical harm (cited in Sethi & Schuler, 1984).

Worker compensation claims for stress-related injuries or medical conditions have risen from 5% in 1980 to 15% in 1988. Prior to OSHA, worker compensation paid primarily for physical injuries that occurred on the job. These injuries, as indicated by Smith and Passen (1988), frequently were stress-related; but, none the less, they were actual physical injuries. However, it has become common for significant monetary awards to be made for a varied array of stress-related problems, such as depression, nervous break downs, migraines, anxiety, ulcers, and heart disease. The state judicial systems have attempted to establish guidelines for presenting these awards. Generally, the claimant must have suffered a sudden emotional shock on the job, must have received physical injury, or must have experienced stress above and beyond that which occurs in everyday life or employment. The average award has been \$15,000, and there have been

awards as much as \$28,000 (DeCarlo, 1989; Miller et al., 1988).

In addition to the financial impact of health care and worker compensation claims, an organization is affected by stress-related diminution of employee performance, which determines success or failure to reach organizational goals. Organizational success has been found to be dependent upon having positive, committed employees. Indeed, the very definition of management is accomplishing goals through others, and the ultimate test of management is business performance (Drucker, 1954). Stress has been identified as a factor that leads to job dissatisfaction, employee turnover, and absenteeism, all of which have been proven to impede organizational growth and success (Ivancevich, Matteson, & Preston, 1982; Mobley, Griffeth, Hand, & Meglino, 1979). According to Bhagat, McQuaid, Lindholm, & Segovis (1985),

[Extreme job stress is] so aversive to most employees that they will try to avoid it by withdrawing either psychologically (perhaps through disinterest or lack of involvement in the job) or physically through frequent lateness, absenteeism, or by leaving the job altogether. (p. 202)

Absenteeism as a Stress-Related Event

The effects of absenteeism on productivity have been difficult to quantify, but it has been estimated that 500 million work days are lost annually as a result of illness and disability (Blanchard & Tager, 1985). The Bureau of National Affairs (cited in Seamonds, 1986) approximated that 50% of worker absences could be avoided by corporations managing in a way that met employees' physical and mental needs.

Seamonds (1986) conducted a study which included 1000 employees of a financial institution. The subjects were interviewed about job stress. The interview occurred in conjunction with the subject's annual physical examination. Based on interview results, two groups were identified: those whose stress scores indicated either job overload or job underload, and those whose scores indicated a moderate level of job stress. The interview also was used to give information and educational materials, to provide referral sources, and to educate the employees about the benefits of prevention and regular medical examinations. The absenteeism rate was measured before and after the interview sessions. In the first group, absenteeism fell from 5.078 in the 6 months prior to the interview to 2.922 in the 6 months following the

interview. Effects were even more significant for the second group, with initial rates of 7.302 and subsequent rates of 2.163. Both groups experienced significant decreases following the intervention. Control groups, made up of individuals who received a physical examination but no other intervention, experienced an increase in absenteeism during the same time period. Major causes of stress were identified as lack of recognition by superiors, role conflict, deadlines, and job unsuitability.

Occupational Stress and Related Studies

Occupational stress has not been found to be an isolated problem or characteristic. Many antecedents and related problems have been found by researchers, and have been studied in depth. The concepts of stress, job satisfaction, absenteeism, turnover, productivity, and many others have been evaluated, and significant relationships have been found in several studies (Cooper & Payne, 1980; Goldberger & Breznitz, 1982; Hendrix, Troxler, & Ovalle, 1985; Smith & Pasen, 1988).

Holt (1982) identified 55 different types, or causes, of occupational stress. This list was divided into seven broad categories, including: physical properties of the

working environment, time variables, social and organizational properties of work and its setting, role related, miscellaneous (overload, relationship to supervisor, conflict, etc.), and person-environment (job) fit. Additionally, researchers identified the lack of strong, positive supervision as a major occupational stressor (Blanchard & Tager, 1985; Miller et al., 1988).

In an overview of existing research, Cooper (1985) identified six major sources of occupational stress, including: "...factors intrinsic to the job, role in the organization, career development, relationships at work; organisational [sic] structure and climate; and home:work interface" (p. 627). Poor physical working conditions, shift work, job overload, job underload, and physical danger were variables considered under factors intrinsic to the job. A person's role in the organization was identified as a main source of occupational stress, with those in less physically demanding roles experiencing a greater amount of occupational stress related to role conflict. These roles included managerial, clerical, and professional positions. Career development, according to Cooper, referred to "...the impact of overpromotion, underpromotion, status incongruence, lack of job security, thwarted ambition" (p. 629). Stress related to career

development was stated to be most common among women. Higher stress levels among females were found to result from sex discrimination related to promotions, inadequate training, and not enough delegation of responsibilities to women. Both job stress and job satisfaction were found to be related to relationships at work, where strong support from peers served to decrease stress and increase job satisfaction. It was found that the effects of job stress on blood pressure, glucose levels and the number of cigarettes smoked were affected favorably by positive work relationships. Organizational structure and climate included the factors of office politics, lack of effective consultation, and lack of participation in the decision-making process. The home:work pressures involved the impact of occupational stress on the family of the employee; while the dual-career stress involved the effects of both husband and wife working, which increased stress regarding the accomplishment of family responsibilities at home. Cooper's (1985) overview touched on many of the aspects of occupational stress, and provided a summary of its causes.

The stress levels of executive women were the subject of a study at the University of Manchester Institute of Science and Technology in the United Kingdom (Davidson &

Cooper, 1986). Problems identified as being unique to female managers included:

...burdens of coping with the role of the 'token woman', lack of role models...strains of coping with prejudice and sex stereotyping, and overt and indirect discrimination from fellow employees, employers and the organizational structure and climate. (Davidson & Cooper, 1986, p. 302)

Both qualitative and quantitative data were collected. The qualitative data for the study was collected by using an in-depth interview with 60 women in various levels of management. The quantitative data was collected through administration of questionnaires to a total of 696 female and 185 male managers. The questionnaires measured job and organizational characteristics, home and social characteristics, coping ability, management style, type A coronary-prone behavior, general health, drug use, job satisfaction, and work performance. The woman manager clearly experienced stress related to viewing gender as a major disadvantage in terms of her future career-advancement prospects. These women managers also reported stress due to frequently being unable to influence and persuade people, being unable to promote oneself in competitive situations, and being unable to

cope well in conflict situations. Men, on the other hand, experienced stress related to what they felt to be underpromotion and poor pay, although their salaries were higher than females in comparable situations. Both females and males tended to use alcohol and cigarettes to help cope with stress; both experienced job dissatisfaction resulting from high pressures linked to organizational structure stressors; neither reported that home or social stressors influenced levels of job dissatisfaction; neither tended to use humor as a coping mechanism; and both exhibited Type A tendencies. It was a recommendation of this study that Great Britain adopt the US approach of legislated affirmative action so that a positive recruitment strategy toward women could be employed by organizations (Davidson & Cooper, 1986).

French and Caplan (1973) found that job dissatisfaction, job tension, self-esteem, threat embarrassment, cholesterol levels, heart rate, skin resistance, and number of cigarettes smoked were related to qualitative and quantitative job overload. Individuals appeared to be left with a lack of a sense of challenge, meaningfulness, and self-control. Poor relations with co-workers were associated with role ambiguity and inadequate communications. Employees demonstrated low

levels of trust, supportiveness, and low interest in solving problems effectively. This resulted in low job satisfaction and feelings of job-related threat to well-being.

A structured interview study of teacher stress in Stavanger, Norway, was conducted by Mykletun (1985), in which job stress and job satisfaction were evaluated. "A majority of the teachers reported difficulties in relaxing from work during spare-time (85%), inability to clear their desks (89%), and dissatisfaction (62%) with this aspect of their work" (p. 62). Anger (96%) and helplessness (85%) were the most common negative emotions resulting from performance of job duties. Most teachers also reported pleasure and satisfaction on a daily basis (57%).

In order to identify sources of stress and dissatisfaction that may induce teachers to leave the profession, 360 Connecticut public high school teachers were surveyed by Litt and Turk (1985). Eighty-one percent (291) of the initial sample returned usable questionnaires. Variables evaluated included job satisfaction, job absenteeism, intention to leave teaching, negative well-being, perceived role, school climate, coping resources, and severity of specific

problems. Job stress, low pay, low status of the teaching profession, and too much paperwork were expected to be significant sources of job stress, and the study supported this expectation. Two additional factors significantly contributing to the stress of the teachers were role conflict and relationship with supervisors. Perception of the principal was also an important factor contributing to job stress, which the authors find consistent with the literature. "The most frequently teacher-cited sources of stress and reasons for leaving the profession are those related to the principal" (Bloland & Selby, 1980, cited in Litt & Turk, 1985, p. 183). Litt and Turk recommended that more effort be put into teacher-administrator relationships in order to decrease teacher turnover and increase job satisfaction.

Kottkamp and Travlos (1986) studied the effects of role conflict, role ambiguity, overload, and powerlessness on high school principals' job satisfaction and thrust behavior (the attempt to influence behavior of others through personal example). All job stressors were found to be negatively correlated with job satisfaction and positively correlated with emotional exhaustion. None of the stressors was correlated significantly with thrust behavior.

Quality of life, including satisfaction with life in general, satisfaction with the job, and health status, was measured in a study of 57 nonacademic, high-level administrators and 46 faculty from the departments of humanities and natural sciences at the University of Michigan (Blackburn, Horowitz, Edington, & Klos, 1986). These groups were chosen because they experienced the same environmental pressures, but represented two different types of work groups. The faculty group had significant control over time and type of work, but the administrators worked in a more structured, bureaucratic system with set hours of operation. Data collected included maximal oxygen consumption through a treadmill cardiac stress test, underwater weighing, Lifestyle Analysis Questionnaire (LAQ), and recalled number of days absent in the past year. The LAQ included a number of scales: Clinical affect scale, self-esteem scale, problem prevention, environmental preference scale, social support scale, positive lifestyle habits, psychophysiological symptoms, job-descriptive index, and life satisfaction scale. The correlations between administrator job strains and job, life, and supervisor satisfaction were significant. Reported number of days ill was not related significantly to job strain. The faculty demonstrated

significant relationships between job strains and job and life satisfaction. Job strains for the faculty were not related significantly to the supervisor. Moderating effects were found with higher levels of self-esteem.

Moderators such as percentage body fat and maximum VO2 do not appear to mitigate job-strain-QOL relationships although physical fitness programs have been shown to have secondary benefits on self-esteem, job satisfaction, perceptions of job strains, and the practice of healthy habits. (Blackburn et al., 1986, p. 39)

Kaufman and Beehr (1986) found an unexpected result when they studied a group of 103 nurses to evaluate the relationship between social support and job stress. It was shown that stressor-strain relationships were stronger under conditions of high social support from co-workers than under low support. The researchers offered possible explanations for this occurrence: (a) support was offered by the individual causing the strain, and (b) supportive communications between employees may have convinced co-workers that things were indeed as terrible as they seemed.

Effects of various intraorganizational, extraorganizational, and individual characteristics on the

stress and job satisfaction levels of Department of Defense employees were studied by Hendrix, Troxler, and Ovalle (1985). Intraorganizational characteristics which were measured included: goal clarity, skill variety, intergroup conflict, organizational control, work subject to whim of superiors, co-worker communication, job autonomy, group goal setting, problem-solving participation, job enhancement, supervision, general organizational climate, co-worker relationships, realistic job goals, and whether employees were consulted on decisions. Extraorganizational characteristics which were evaluated included home and family relations. Individual variables included locus of control, tolerance for change, assertiveness, age, type A behavior, and age. Results of the study included several significant results. One variable, general organizational climate, directly affected job satisfaction as well as the intention to quit the organization. A significant negative relationship was found between job satisfaction and job stress. The researchers discussed the nonsignificant relationship between job autonomy and job satisfaction. There was a significant negative correlation between job autonomy and job stress, which was an indirect link and, as such, was determined to be consistent with other research. Control

and autonomy were found to be important to job satisfaction, as were good co-worker relations. This study supports the position that there are relationships between the variables of job stress, job satisfaction, and overall organizational climate.

Job stress, job satisfaction, task interest, and staff turnover were evaluated in a study by Zautra, Eblen, and Reynolds (1986). Fifty-six employees of a psychiatric hospital were interviewed using structured interview tools. Both job satisfaction and task interest were related negatively to employee turnover. Job stress was related strongly to turnover only when occurring with low task interest. Even high job stress did not lead to turnover within the 6 month study period when occurring in the presence of strong task interest. A concern of the researchers related to this finding was that employees might decide to remain in an unhappy, stressful situation because they have a strong interest in the work they accomplish. "If so, the compromise that employees make staying at work could increase their risk for any stress-related psychophysiological disturbance. More data are needed on this question" (Zautra et al., 1986, p. 390).

Loss of job security is one of the most stressful events that occurs in the lives of most individuals (Kieffer, Krinsky, Carone, & Yolles, 1984). Dr. Eliot, chairman of the Institute of Stress Medicine in Denver (cited in Johnson, 1990), has studied aerospace engineers at Cape Canaveral, and has found that their death rate was three times that of the general population of the state of Florida. The deceased 28-to 35-year-old engineers had died immediately after lay-offs at the completion of rocket launches. Postmortem evaluation revealed that "the coronary arteries were in pretty good shape...but he also discovered ruptures of heart-muscle fibers that other researchers have duplicated in animal experiments with overdoses of adrenaline, a stress hormone" (Johnson, 1990, p. R11). This study has created a question about whether extreme stress is indeed a life and death matter.

It also has been demonstrated that managers experience job stress. In a study by Howard (1984), 300 managers from 12 major Canadian companies were surveyed for principal causes of stress. Four categories of stressors emerged, including feelings of impotence or helplessness, too much work at an unrelenting pace, urgency, and ambiguity and uncertainty. Managers averaged only 7 minutes on any given activity before an

interruption occurred. Managers also reported that the company policy was frequently ambiguous, leaving a large margin for decision-making and also a large potential to be wrong. Managers often felt that they had a total lack of authority; nevertheless, they also had total responsibility for the accomplishment of vague goals. Company politics were cited as creating stress because politics (who you know, not what you know) seemed to govern promotion selections. Personnel management was a source of stress. One of the major personnel problems identified was making a decision about how to handle employees' personal problems at work. The volume of work was felt to be unrealistic, and managers often became the scapegoats for upper management's failure to reach unrealistic goals. Managers were not consulted in the development of goals, so their valuable hands-on input was not available to upper management. Finally, managers indicated that their stress levels were increased significantly by being put in an unfamiliar situation where their knowledge and experience was limited.

The previously reviewed studies repeatedly identified job dissatisfaction as a concomitant factor related to job stress. Additional information pertaining to job

satisfaction has been organized in the next section of the review of literature.

Job Satisfaction

According to Gruneberg (1976), the traditional concept of job satisfaction consists of the mentality an individual holds regarding his job. This includes feelings about the nature of the job itself, the pay, the promotion prospects, and the nature of supervision. Individuals bring with them a set of expectations about what the job should provide, so each person will experience a particular job in different ways. Behavioral scientists have developed theories about what influences the experience of job satisfaction among employees. It was thought at one time that job satisfaction was closely related to productivity, but researchers have found a more positive relationship between job satisfaction and degree of absence and turnover (Gruneberg, 1976, 1979).

Upon completion of 57 correlational field studies, five statements relating to job satisfaction were supported:

1. The intrinsic nature of the work itself is positively related to satisfaction and negatively related to absenteeism and turnover.

2. Autonomy is positively related to satisfaction and performance.

3. Democratic supervisory style is positively related to satisfaction, but may be either positively or negatively related to performance.

4. Supportive supervisory style is positively related to satisfaction.

5. Organizational climate (reflecting support, open communication, and autonomy) is positively related to satisfaction and, in most cases, to performance. (Srivastva et al., 1975, p. xvi)

Interestingly, these factors are very similar to those which influence occupational stress. Job satisfaction was studied as a moderator variable between role ambiguity, a common stressor, and a number of coronary risk factors (Howard, Rechnitzer, & Cunningham, 1986). The conceptual framework for this study was based on the concept that job satisfaction may mediate the effects of stress on physiological outcomes. The study was a longitudinal study occurring over the period of 2 years, with 278 subjects from 12 different corporations who were in middle or top management positions. Five dimensions of job satisfaction were measured, including work, supervision, pay, promotion, and co-workers.

Smoking, blood pressure, cholesterol, triglycerides, and uric acid levels were utilized as the coronary risk factors for the study. Type A behavior was determined by interview. The results of the study indicated that Type A's and Type B's definitely differ in their responses to ambiguity. Type A's experienced an increase in systolic blood pressure, while the Type B's experienced a decrease. In the Type A's, intrinsic job satisfaction did exert a significant moderating effect, and a small but significant direct effect on blood pressure. No significant relationships were found between ambiguity and cholesterol, smoking behavior, or uric acid.

Maslow's Hierarchy of Needs and Related Studies

Maslow (1943) identified five levels of needs which have been arranged in a hierarchical order from most basic to most advanced: physiological needs (hunger, sex, thirst, rest); safety needs (shelter, freedom from dangerous situations); love (affection, belonging, both giving and receiving love); esteem needs (self-respect, reputation, prestige); and, finally, the need for self-actualization (desire for self-fulfillment, autonomy, opportunity to reach optimum potential). Once each level of need has been met, it ceases to become a point of

emphasis for the individual. An individual who has worked in a very safe, sanitary, aesthetically pleasing environment no longer is required to invest energy with concern over safety needs. He or she has gained the ability to move toward satisfaction of the next higher level need.

Beer (1966) conducted a study designed to determine the relationships between leadership style, motivation, perceived opportunity for satisfaction of needs on Maslow's need hierarchy, and actual satisfaction of needs on Maslow's hierarchy. Beer hypothesized a positive correlation between Consideration and Freedom of Action leadership styles and higher order need satisfaction, and also with motivation. It was hypothesized that supervisory styles with emphasis on Production or Initiating Structure would be related negatively to motivation. The most important need of the workers surveyed was for self-actualization, followed by autonomy and social needs, with esteem and security needs rated lowest. The results were as had been expected, with Freedom of Action leadership styles positively correlated with satisfaction of higher order needs, including autonomy, and Consideration positively related to satisfaction of esteem and self-actualization needs. Both

Freedom of Action and Consideration styles were related negatively to satisfaction of security needs, which was expected. Security needs were positively satisfied by the Initiating Structure leadership style. However, the correlations between actual need satisfaction and motivation were not statistically significant, which was noted by Beer to be in contradiction to previous postulations which held that participative leadership would result in satisfaction of higher order needs and therefore lead to increased motivation. Beer stated, "An individual could be satisfied with self-actualization...and still not have a sufficient amount of that need to display motivated performance" (1966, p. 46). Initiating Structure was the leadership style which was related to motivation. Individuals high in need for self-actualization, esteem, autonomy, production emphasis, and consideration were motivated positively by such supervision. However, this effect was moderated by the level of Consideration the workers perceived from their leader. A combination of Consideration and Initiating Structure resulted in a higher positive relationship between Structure and Initiative. Beer concluded his study by stating:

The present study has raised more questions than it has answered....The results cast serious doubts on...theories which employ the Maslow need hierarchy as means of explaining the dynamics of leadership and human motivation at work. (1966, p. 68)

Saluzzi (1976) measured and compared the psychological need perceptions and the extent to which these needs were met among elementary school teachers in two differently structured settings within the same school district. One group of teachers was under the Individually Guided Education (IGE) program designed to give more autonomy to the teachers. The other group was in the traditional, self-contained organizational plan within the same district. The teachers were surveyed using the Employee Needs Questionnaire (ENQ) which was based on Maslow's hierarchy of needs and developed by Beer (1966). The two-part questionnaire included both perceived importance of needs and perceived satisfaction of needs. Need deficiency scores were calculated by subtracting the perceived satisfaction level from the level of perceived importance. Results showed "the smallest deficiency on the need for 'security' followed by increasing deficiencies on the 'social,' 'esteem,' 'autonomy,' and 'self-actualization'" (Saluzzi, 1976,

p. 103). The implications for this study were identified as recommendations to administrators of elementary schools to focus their attention on "security" and "social" needs and to use fulfillment of these needs as a springboard to fulfillment of "autonomy," "esteem," and "self-actualization" needs.

Herzberg's Two-Factor Theory

Herzberg's theory (cited [excerpted] in Vroom & Deci, 1970) has been related to Maslow's needs hierarchy. Herzberg identified two factors which lead to either job satisfaction or job dissatisfaction. It is his theory that the mere absence of dissatisfiers does not bring satisfaction any more than the mere absence of pain brings pleasure. The factors which resulted in job satisfaction were classified as motivators, and included five categories: achievement, recognition, intrinsic value of the work itself, responsibility, and advancement. The motivators have been found to correspond with the higher levels of self-autonomy and self-actualization in Maslow's hierarchy of needs. Conversely, a set of factors was identified which led to job dissatisfaction, and these were called hygiene factors. The hygiene factors were related to working conditions, and did not lead to

feelings of job satisfaction when they were good; they only led to feelings of job dissatisfaction when the conditions were bad. Hygiene factors included company policy and administration, supervision-technical, salary, interpersonal relations with the supervisor, and general working conditions.

These two great theorists, Maslow and Herzberg, have contributed tremendously to the theoretical framework for management in the middle to late twentieth century. Management models and styles have been based upon their theories and research.

Historical Review of Management Philosophies

Many types of managerial styles have evolved during the 20th century. The foremost among these which influenced specific characteristics associated with American management styles are reviewed in the following sections.

Traditional Management (1900 - 1930)

There are three basic types of traditional management: bureaucratic management, scientific management, and administrative management. The individuals who are credited with the development of each

of these types of management are: (a) Max Weber, a German social historian in the early 1900's, who is considered to have established the philosophy of bureaucratic management; (b) Frederick W. Taylor, a machinist in late-nineteenth-century Philadelphia, who is considered the father of scientific management; and (c) Henri Fayol, a French industrialist in the early 1900's, who is considered the pioneer of administrative techniques (Hellreigel & Slocum, 1986).

These three types of management all emphasize the formal aspects of the organization....Division of labor, hierarchical arrangements of position, and rules and regulations were the chief ingredients in these models. (Hellreigel & Slocum, 1986, p. 56)

The hallmarks of bureaucratic management included seven characteristics: rules and regulations, impersonality, division of labor, hierarchical structure, lifelong career commitment, authority structure, and rationality. Weber (cited in Hellriegel & Slocum, 1986) visualized that the more impersonal, rational, and regulated the work environment was, the more likely employees were to be treated fairly, and the more likely the organization was to reach its objectives. Several organizations today are run with a high bureaucratic

orientation, including the US Postal Service and United Parcel Service.

Taylor's scientific management principles (cited in Hellriegel & Slocum, 1986; Vroom & Deci, 1970) were based on three basic tenets. He developed the concept of the time-and-motion study, with the idea that wasted time and effort could be eliminated. He implemented analyses of work flow and inventory of stored materials. Taylor felt that individuals should be highly specialized and, because of this, he implemented the concept of functional foremanship, in which each worker would have a foreman for each area of specialization, including planning, production scheduling, time-and-motion studies, and discipline. Additional foremen would be needed to oversee machine maintenance and function. Taylor's third component was that of individual incentives. He felt that it was necessary to motivate workers with money, and that it would be necessary to compensate them for any production over the basic expectations. It was his theory that management would be happy to pay an incentive, as the organization would receive the benefits of increased productivity.

Fayol's administrative management model (cited in Hellriegel & Slocum, 1986) focused on the four basic

functions of management: planning, organizing, leading, and controlling. He identified 14 management principles which he believed to be crucial to managerial success. These principles included division of labor, authority, discipline, unity of command, unity of direction, subordination of individual interest to the common good, fair remuneration, centralization, scalar chain (line of authority), order, equity and fairness, stability and tenure of staff, initiative for subordinates, and team spirit. Fayol's ideas have been used throughout the decades, and many still are used today (Hellriegel & Slocum, 1986).

The traditional management styles had both advantages and disadvantages. The prime advantage was that the organization and efficiency of the industry were enhanced. This advantage was offset by the disadvantages of rigid rules and red tape, slow decision making, and authoritarianism which resulted from strictly applied traditional styles.

Traditional management techniques were used until the 1930s, when the era of behavioral management began, and have been continued in a modified manner into modern management. The behavioral management movement tempered

some of the formal characteristics of traditional management with a more human-relations centered approach.

Behavioral Management Theory (1930-1960)

The recognized beginning of the behavioral movement was the study which lent its name to the Hawthorne effect. Elton Mayo, a clinical psychologist working at the Harvard Business School, conducted studies at the Hawthorne plant of the Western Electric Company from 1927 to 1932 (cited in Hellriegel & Slocum, 1986). No matter what was done to the experimental group and the control group, productivity and group pride increased. "When special attention is given to workers by management, productivity is likely to change regardless of actual changes in working conditions. This phenomenon became known as the Hawthorne effect" (Hellriegel & Slocum, 1986, p. 59).

It was from this study that Mayo concluded that management must be concerned with preserving the dignity of the workers, demonstrating appreciation for their accomplishments and, in general, recognizing man as a social being (cited in Hellriegel & Slocum, 1986). This was the first time that the forces of the peer group were identified and calculated into the management equation. Although it has been determined that human behavior and

motivation is more complex than originally thought by Mayo, his concepts are still applied in today's management style.

Another well-known behavioral theorist, Douglas McGregor, has been remembered for his Theory X and Theory Y approaches to management (cited in Vroom & Deci, 1970). Theory X represented the traditional viewpoint of management, which holds management responsible for organizing the money, materials, equipment, and people; and also for directing people's efforts, motivating them, controlling their actions, and modifying their behavior to fit the needs of the organization. In fact, this theory held as a central tenet that "without active intervention by management, employees would be passive--even resistant--to organizational needs. They must therefore be persuaded, rewarded, punished, controlled" (McGregor, cited in Vroom & Deci, 1970, p. 307). McGregor (cited in Peters & Waterman, 1982) termed Theory X "...the assumption of the mediocrity of the masses" (p. 95).

Theory Y held a contrasting bias which assumed:

- (1) that the expenditure of physical and mental effort in work is as natural as in play or rest -- the typical human doesn't inherently dislike work;
- (2) external control and threat of punishment are

not the only means for bringing about effort toward a company's ends; (3) commitment to objectives is a function of the rewards associated with their achievement--the most important of such rewards is the satisfaction of ego and can be the direct product of effort directed toward an organization's purposes; (4) the average human being learns, under the right conditions, not only to accept but to seek responsibility; and (5) the capacity to exercise a relatively high degree of imagination, ingenuity, and creativity in the solution of organizational problems is widely, not narrowly, distributed in the population. (McGregor, cited in Peters & Waterman, 1982, p. 95)

McGregor's Theory Y was tied closely to Maslow's hierarchy of needs, as it relied heavily on self-control and self-direction. It advocated participative management and decentralization of authority. Management by objectives, a system devised by Drucker, also was advocated by McGregor. Thus, McGregor felt that individuals could achieve satisfaction of ego needs (self-esteem), autonomy, and self-fulfillment (cited in Vroom & Deci, 1970).

Peter F. Drucker (1954) was an advocate of participative management, management by objectives, and of self-control for the manager. According to Drucker,

Any business enterprise must build a true team and weld individual efforts into a common effort....If these requirements are not met, managers are misdirected. Their efforts are wasted. Instead of team work, there is friction, frustration, and conflict. (p. 121)

Quantitative Techniques in Management

During World War II, systems analysis was developed to handle complex problems which could not be handled based on intuition or experience. Quantitative techniques have been integrated thoroughly into modern management, and now have become so sophisticated that the problems could not be solved without the utilization of computers.

Present day management has made use of quantitative techniques in the areas of inventory-decision models, statistical decision theory, linear programming, and sophisticated mathematical calculations for problem solving. The only limitation of quantitative techniques has been that they cannot be applied to the human side of the organization; however, many organizations have allowed

computers and data processing to take care of monitoring production and budgetary matters so that managers can spend their time focusing on the people in the organization (Hellriegel & Slocum, 1986).

Contingency Theory

The latest theory of management, contingency theory, has advocated that managers select the technique which best fits the situation at hand. As has been mentioned throughout this section, each type of management style or technique has its strong points. It has been recognized that managers need the flexibility to apply the appropriate technique to each situation (Hellriegel & Slocum, 1986).

American and Japanese Management Styles Contrasted

The purpose of this section of the literature review is to provide an outline of current business practices in the United States and Japan. It was not designed as an exhaustive review of management techniques, but rather as background information to provide the reader with basic information about why there might be a difference in the stress levels of Japanese- and American-managed companies.

The Japanese and American management practices have differed because of basic differences in philosophy concerning individualism and society. In America, there has been a great concern for individual rights; whereas, in Japan, there has been a philosophy of collectivism. The philosophy of collectivism has strengthened Japanese companies because decisions are made for the long-term benefit of the company rather than for the short-term benefit of the individual. Japanese society has developed a reputation for seeking group harmony (Hellriegel & Slocum, 1986).

Akio Morita (1986), Chairman of the Sony Corporation, wrote in his book, Made in Japan, that the concept of lifetime employment was initiated as a result of the financial restructuring of Japan after World War II. Laws were created by the Allied Occupation's economic technicians who had the goal of demilitarizing the country and making it a democracy. These laws deposed the wealthy families and the large zaibatsu firms which had monopolized Japanese industry prior to the war. The result of this change was to create an egalitarian society in Japan. These laws also made it very difficult and expensive to fire an employee. However, in Morita's words, "... that didn't seem like such a bad idea, since

workers were badly in need of work, and struggling businesses needed employees who would remain loyal" (p. 152). Morita told the story of how he addresses the new college graduates each year and states

We did not draft you. This is not the army, so that means you have voluntarily chosen Sony. This is your responsibility, and normally if you join this company we expect that you will stay for the next twenty or thirty years. (1986, pp. 145-146)

This practice has been contrasted with the American employment practices. Most Americans average a minimum of three different jobs in their career. Long-term commitment has not been a part of the American system; rather, it has become common for employees to leave their present employment in order to move up the ladder more quickly. In this manner, individuals have been able to advance more quickly, but the group or company has suffered from turnover and a lack of continuity (Vogel, 1979).

Japanese companies have been built on the philosophy of concensus, which has been one of the driving forces behind the dedication of their workers. This philosophy of cooperation is expressed as follows:

[in the] ritual of ringi, a collective decision making in which a document passes from manager to manager for their official seal of approval....Slowly individual preferences give way to collective consensus. (Ouchi, 1981. p. 35)

Ouchi (1981) set forth the components of both American and Japanese management philosophies. Japanese organizations include the components of lifetime employment, slow evaluation and promotion, nonspecialized career paths, implicit control mechanisms, collective decision making, collective responsibility, and holistic concern for the well-being of the employees and the company. On the other hand, American organizations frequently embody the characteristics of short-term employment, rapid evaluation and promotion, specialized career paths, explicit control mechanisms, individual decision making, individual responsibility, and segmented concern.

Ouchi (1981) labeled companies with management philosophies similar to those described under Japanese organizations "Theory Z" companies. In his research in America, he learned that Theory Z management could exist in different environments. He surveyed American managers to find out which, if any, companies conformed to Theory Z

techniques. To his surprise, he consistently received the same answers: IBM, Hewlett-Packard, Eastman Kodak Company, the US Military, and Proctor & Gamble. Ouchi referred to these organizations occurring naturally in America as Type Z organizations, as compared with those using American Organization techniques, which were labelled Type A, and Organizations in Japan, which were labelled Type J.

Peters and Waterman (1982) conducted interviews and did a 25-year literature review on 62 companies across the United States. Based on their findings, they identified American companies which had excelled in the art of managing their people. They identified the same organizations that Ouchi did, and added Texas Instruments, Digital Equipment, Caterpillar Tractor, Johnson & Johnson, National Semiconductor, Disney Productions, K mart, Wal-Mart, Maytag, Merck, Dow Chemical, and 3M.

Eight characteristics were noted to be present in each of these companies which set them apart from the crowd (Peters & Waterman, 1982):

1. A bias for action, for getting on with it.

Even though these companies may be analytical in their approach to decision making, they are not paralyzed by the fact.

2. Close to the customer. These companies learn from the people they serve. They provide unparalleled quality, service, and reliability-things that work and last.

3. Autonomy and entrepreneurship. The innovative companies foster many leaders and many innovators throughout the organization. They are a hive of what we've come to call champions; 3M has been described as "...so intent on innovation that its essential atmosphere seems not like that of a large corporation but rather a loose network of laboratories and cubbyholes populated by feverish inventors.

4. Productivity through people. The excellent companies treat the rank and file as the root source of quality and productivity gain. They do not foster we/they labor attitudes or regard capital investment as the fundamental source of efficiency improvement. Thomas J. Watson, Jr., said of his company, "IBM's philosophy is largely contained in three simple beliefs. I want to begin with what I think is most important: our respect for the individual."

5. Hands-on, value driven. Thomas Watson, Jr., said that "the basic philosophy of an organization

has far more to do with its achievements than with technological or economic resources, organizational structure, innovation and timing." Watson and HP's William Hewlett are legendary for walking the plant floors.

6. Stick to the knitting. While there were a few exceptions, the odds for excellent performance seem strongly to favor those companies that stay reasonably close to businesses they know.

7. Simple form, lean staff. As big as most of the companies we have looked at are, none when we looked at it was formally run with a matrix organization structure, and some which had tried that form had abandoned it. The underlying structural forms and systems in the excellent companies are elegantly simple. Top-level staffs are lean; it is not uncommon to find a corporate staff of fewer than 100 people running multi-billion-dollar enterprises.

8. Simultaneous loose-tight properties. The excellent companies are both centralized and decentralized. For the most part, as we have said, they have pushed autonomy down to the shop floor or product development team. On the other hand, they

are fanatic centralists around a few core values they hold dear. (pp. 13-16)

The book in which these beliefs were found became a number one best-seller. Several parallels between these companies and Theory Z have been drawn, and the theory has been supported by the veritable success of the excellent companies (Peters & Waterman, 1982).

Quality has been inherent in the excellent companies in America, and it is central to the Japanese management style. The Japanese have developed the concept of KAIZEN. According to Imai (1986), KAIZEN "... is the single most important concept in Japanese management--the key to Japanese competitive success. KAIZEN means improvement...ongoing improvement involving everyone--top management, managers, and workers" (p. xxix).

The concept of KAIZEN originated after Deming and Juran visited Japan in the 1950's and introduced the Deming cycle, one of the crucial quality control tools for assuring continuous improvement (Imai, 1986). The Deming cycle's circular design led from research, to design, to production, to sales, and back to research. The Japanese were so interested in American management and productivity that, in 1955, the Japan Productivity Center (JPC) was established to study foreign techniques. Goshi (cited in

Imai), an instrumental founder of the JPC, made a speech on its 25th anniversary. He remarked upon the eagerness of Japan to import scientific management from the West, but stated that the ultimate goal of the productivity movement should be to improve the welfare of employees. Worker satisfaction was considered to be vital to company success. Goshi ended his speech by stating,

With its grounding in this philosophy, the productivity movement in Japan has flourished, making maximum use of the human-centered management techniques such as labor-management cooperation, collectivism, small-group activities, QC circles, and what have you. (cited in Imai, 1986, p. 180)

The greatest obstacle for the American companies has been cited as their lack of long-term planning. This failure to look to the future has been cited for the problems which have resulted in lay-offs and plant closings. Even in the book, The False Promise of the Japanese Miracle, the authors identified the tendency of American management toward short-term profit seeking, which they felt was

...accentuated and in many cases distorted by an emphasis on quantification and scientific management....Relationships within and without the

business firm, or with other segments of society, are important only to the extent necessary to secure and exploit a firm's profit opportunities. (Sethi, Namiki, & Swanson, 1984, p. 125)

Bennis (1989) summarized the state of American business in the 1980s. In many of the American industries and businesses, workers have been seen as merely interchangeable work units: the workers were undervalued and frequently used as scape goats. They have been described as lazy and careless, when in fact, according to Bennis, the problems resided in the executive suites, and it was the American executives who had become lazy and careless. When profits began to deteriorate, the executives responded by shutting down plants and laying off workers. In many instances, the products had become substandard because the managers focused more on short-term profit than on developing innovative, functional, and useful products.

One study was found in which stress levels of Japanese and American CEOs were compared (DeFrank, Matteson, Schweiger, & Ivancevich, 1985). The researchers identified the potential for stress levels to be impacted and conducted their study by mailing questionnaires to 475 American CEOs and 400 Japanese CEOs in Japan. The

questionnaires addressed stress, job satisfaction, and Type A personality tendencies. Usable questionnaires were received from 171 American CEOs and 107 Japanese CEOs. The stress levels reported by the Japanese CEOs were significantly higher than those reported by the American CEO's and, correspondingly, the Japanese were significantly less satisfied with their current positions than their American counterparts. The American managers were definitely found to be more hard-driven and ambitious, but they were better able to discharge stress and tension. The researchers concluded that more scientific research is needed before conclusions can be reached.

While some writers have gained recognition by publishing calls for American business leaders to solve their problems by adopting management techniques that work in Japan, we believe that this is not always the best advice and that it's not supported by scientific evidence. (DeFrank et al., 1985, p. 73)

Summary

Occupational stress has been determined to be a very complex issue. There are many antecedent factors, which have been reviewed in this chapter. Management styles,

which heavily impact the stress under which employees are placed, have been reviewed in a historical context.

Several of the theories for management and human motivation have been discussed. Finally, the need for continued study of societal, cultural, and organizational impact on occupational stress has been identified.

CHAPTER III

METHODOLOGY

In this chapter, the population has been described and procedures for selection of the sample have been discussed. The research instruments have been discussed, as well as the procedures for administration of the questionnaires. The descriptive and statistical techniques used to analyze the data collected have been described.

Population and Sample

The population for this study included the employees of two particular Japanese- and American-owned corporations located in the Dallas/Fort Worth Metroplex area in Texas. The sampling technique for selection of the two companies was one of convenience. A listing of the major Japanese-owned companies within a 40-mile radius of the researcher was compiled, and contacts were initiated.

The first Japanese-owned company contacted by the researcher responded favorably and, after screening, was selected as the Japanese-owned company to be used in the study. Screening consisted of determining whether the company matched the criteria set forth in the operational

definition for a Japanese-owned company. A letter outlining the requirements of the participating company and the responsibilities of the researcher was given to the contact person and was returned to the researcher signed by the contact person (see Appendix A).

The contact person for the company requested that the company's identity be protected and, for this reason, the company has been identified as Company J for the purposes of this study. Company J employed between 600 and 700 employees at its Dallas-area location at the time of the initial contact. Approximately 40% of these employees were in manufacturing, 40% were in engineering research and development, and 10% were in administration. The Dallas area office of Company J is a regional manufacturing center for telecommunications equipment. Corporate headquarters for American operations are located within the continental United States of America, and world headquarters are located in Japan.

A 50-subject sample of Company J's employees was selected according to random sampling techniques. Every 10th employee on an alphabetical employee list was selected until approximately 20 manufacturing, 20 engineering, and 10 administrative staff members were selected for the study. Any subject unable to read and comprehend the

English language was replaced by another randomly selected employee. Employees of Japanese nationality were omitted from the study and, if selected, were replaced with the next random selection on the alphabetical employee listing. The Vice President of Human Resources for Company J assisted with subject selection procedures, and was the one who indicated whether a subject was able to read and comprehend the English language well enough to complete the questionnaire.

Upon the completion of subject selection, the Vice President of Human Resources arranged four meetings for employees selected for the study. All subjects received an oral explanation of the study directly from the researcher (see Appendix B). Questions about the research instruments were answered by the researcher, and consent to use the data in this dissertation was assumed upon the return of the completed questionnaire. Subject anonymity was guaranteed. Twenty-one of the 50 chosen subjects failed to come to the meetings to participate in the study, and each was replaced with a randomly selected subject representing the appropriate group.

The American company was selected to match the Japanese company. The first company contacted was interested in being a participant in the study, but was

necessarily rejected due to a significantly smaller number of employees (240 employees) and a recent management change which placed the company under foreign ownership. The second company contacted was enthusiastic about participating in the study and, after being screened as a match for Company J, this company was selected as the American-owned company for this study. The company indicated a willingness to match subject selection and questionnaire administration procedures previously outlined for Company J. For the purposes of this study, this company has been identified as Company A in order to be consistent with nomenclature, and to protect its identity.

Company A also employed between 600 and 700 employees at the Dallas-area location. The Dallas location had a similar division of employees among manufacturing, engineering, and administration. The corporate headquarters for Company A were located in Dallas.

The Human Resources Administrator at Company A assumed a parallel role to that of the Vice President for Human Resources at Company J. An identical letter was sent outlining the responsibilities of the contact person and the researcher.

Data collection for the two companies was carefully planned to assure similar experiences for subjects. In

this manner, the reliability of the study was protected optimally.

Instrumentation

The data collection instruments used in the study included: the Employee Needs Questionnaire ([ENQ] Beer, 1966), the Stress Diagnostic Survey ([SDS] Ivancevich & Matteson, 1983), and a demographic survey developed by this researcher. The ENQ and SDS are copyrighted instruments and, therefore, are not included in the appendices. Each tool has been described in detail within this section.

Employee Needs Questionnaire

The ENQ was designed by Beer (1966) to measure the five levels of Maslow's hierarchy of needs. These needs include security, social, autonomy, esteem, and self-actualization. The ENQ measures both the importance (importance subscale) ascribed to, and the satisfaction (satisfaction subscale) associated with these five factors as determined by responses to a total of 30 questions. Both variables are assessed using a semantic differential scale with a possible rating of 1 to 7 (1 = "no importance"/"no satisfaction"; 7 = "greatest importance"/"greatest satisfaction"). The reliability

coefficient, averaged across the five subscales, was determined by Beer to be .71. "A factorial analysis indicated that the needs, measured in accordance with Maslow's definitions, emerged as statistically independent factors; therefore sufficient validity of the instrument was assumed" (Dunathan & Saluzzi, 1980, p. 19).

Dunathan and Saluzzi (1980) defined five levels of needs from Maslow's hierarchy as they pertain to the Employee Needs Questionnaire. Their definitions follow:

Security Needs. The need for protection from danger and deprivation. This is a relative concept: for some it may mean protection from natural catastrophes, diseases, or war; for others it means preferring a job with tenure, or the desire for insurance or a savings account.

Social Needs. The need for love, affection, and belongingness. In an organizational sense, the need to belong and be accepted by fellow workers will begin to motivate behavior.

Autonomy Needs. The need for strength, achievement, adequacy, mastery, competence, confidence, independence, and freedom.

Esteem Needs. The need for reputation or prestige, status, recognition, attention, importance, and appreciation.

Self-Actualization Needs. The apex of the hierarchy is the desire and need for self-fulfillment; the desire to become more and more what one is, to become everything that one is capable of becoming.
(pp. 17-19)

Stress Diagnostic Survey

The SDS was developed by Ivancevich and Matteson (1983) to measure job stress with respect to 15 factors as indicated by a 60-item questionnaire. The semantic differential format is used, with possible ratings of 1 to 7 (1 = "never a source of stress"; 7 = "always a source of stress"). The subscales include 15 categories of stressors: politics, human resource development, rewards, participation, underutilization, supervisory style, organizational structure, role ambiguity, role conflict, overload quantitative, overload qualitative, career progress, responsibility for people, time pressure, and job scope. The internal validity coefficient, averaged across the 15 subscales, was determined to be .694; and the

reliability coefficient, averaged across the 15 subscales, was determined to be .71 (Ivancevich & Matteson, 1985).

As defined by Ivancevich and Matteson (1985) for use with the Stress Diagnostic Survey, the 15 SDS subscales are as follows:

Politics. The extent of stress created because politics rather than performance affect organizational decisions.

Human Resource Development. The extent to which the lack of training and development opportunities contributes to stress.

Rewards. The extent of stress created by the lack of relationship between performance and rewards.

Participation. The extent of stress created because management is not receptive to input from employees.

Underutilization. The extent of stress created because job assignments are not challenging and do not require full use of skills and abilities.

Supervisory Style. The extent of stress created because the quality of supervision is felt to be inadequate.

Organization Structure. The extent of stress caused by structural factors.

Role Ambiguity. The extent of stress created because an individual does not clearly understand what is expected on the job.

Role Conflict. The extent of stress created because an individual is presented with conflicting demands or an unclear chain of command.

Overload Quantitative. The extent of stress created by too great a volume of work to accomplish in the allotted time.

Overload Qualitative. The extent of stress created by job requirements which exceed the individual's ability or skill level.

Career Progress. The extent of stress created by not having enough opportunities to advance and/or learn new skills and techniques.

Responsibility for People. Feeling stress because of personal feelings about being responsible for other employees.

Time Pressures. The extent to which unreasonable deadlines and time demands are imposed.

Job Scope. The extent of stress caused by the general range and depth of the job. (pp. 1-2)

Demographic Survey

The demographic survey was developed by this researcher to allow a descriptive analysis of the sample population and to categorize the job classifications of respondents. The demographic survey collected information regarding age, sex, job classification, length of employment, years of formal education completed, and annual income.

Procedures

The researcher distributed questionnaires to subjects at meetings which had been arranged by the contact persons at Companies A and J. Meetings were arranged at convenient times for the subjects to be released from their work responsibilities. Subjects received their usual compensation from their respective employers while completing the questionnaires. No time limit was imposed. Subjects completed their questionnaires in their entirety at the time designated by the company contact person, and all subjects completed the questionnaires within 40 minutes. No follow-up reminders or sessions were required.

Treatment of the Data

Once the questionnaires were completed, the data were coded onto a computer disc. Each subject's data were recorded in a single entry, and responses to each question were separated by a space to indicate a discrete data field. The raw data contained on the disc were analyzed by an expert statistician using the SAS system.

In the original prospectus for this research, it was proposed that the data be analyzed using MANOVA, Pearson's product-moment correlations, and multiple regression analysis. However, after consultation with an expert statistician, a complete review of the hypotheses, and thorough analysis of the instruments to be used for data collection, it was determined that other statistical testing would be more effective. Hypotheses 1, 2, and 3 were tested using the two-sample t test. Relationships in hypotheses 4, 5, and 6 were tested using Spearman's rank correlation. Hypothesis 7 was analyzed using the two way ANOVA with interaction. The .05 level of significance was applied.

Demographic data were nominal in nature and were reported using descriptive statistics to provide an overall description of the sample. The demographic survey allowed

subjects to be classified as either exempt (salaried) or nonexempt (hourly) to allow testing of hypothesis 7.

Summary

The sample was one of convenience. Selection of subjects was randomized in order to allow for more reliable generalization of results. The methodology of the study allowed immediate collection of data. Statistical testing was designed to maximize analysis of the data and to evaluate the significance of the findings accurately.

CHAPTER IV

ANALYSIS OF THE DATA

This chapter presents an analysis of the data received from the individual questionnaires and a discussion of pertinent findings. Each subject who consented to participate completed the Employee Needs Questionnaire (ENQ), the Stress Diagnostic Survey (SDS), and the demographic questionnaire. The chapter is presented in two major subsections: (a) Demographic Description of the Sample, and (b) Analysis of Findings. The analysis of findings section is organized according to the hypotheses tested in the study.

Demographic Description of the Sample

The sample consisted of two companies in the North Texas region: one Japanese-owned and -managed, the other American-owned and -managed. There were between 600 and 700 individuals employed by each company. Fifty employees from Company J and fifty employees from Company A were selected randomly to be surveyed, and all of these subjects completed and returned the questionnaires. Of the completed questionnaires, one from Company J and two

from Company A were rejected due to the researcher's and statistician's concern for the integrity of the data.

Demographic data, including age, gender, job classification, years of formal education, and annual income, were analyzed by the chi square technique to determine whether there were significant differences between the demographic profiles of Companies A and J. Tables 1 through 7 summarize the demographic data.

Table 1 represents the age distribution of the 97 subjects representing Companies A and J. There were no significant differences in the age distributions of the two companies (chi square = 3.73; df = 4; p = 0.443).

Table 1

Employees' Age Distribution

Age Interval	Company A	Company J	Total
< 20 years	0	1	1
21-30 years	23	18	41
31-40 years	16	16	32
41-50 years	7	13	20
51-60 years	<u>2</u>	<u>1</u>	<u>3</u>
Total	48	49	97

Table 2 presents the gender distribution among employees of Company A and Company J. Company A's sample was comprised of 69% males and 31 % females; Company J's sample was composed of 57% males and 42% females. Upon analysis, it was determined that the differences were not statistically significant (chi square = 1.40; df = 1; p = 0.237).

Table 2

Employees' Gender Distribution

Gender	Company A	Company J	Total
Male	33 (69%)	28 (57%)	61
Female	<u>15 (31%)</u>	<u>21 (42%)</u>	<u>36</u>
Total	48 (100%)	49 (99%)	97

Note. Total percent of Company J's sample does not equal 100 due to rounding.

Table 3 indicates subjects' length of employment with Company A or Company J. Both companies had been in operation at their present locations less than 10 years, so length of employment ranged from less than one year to no

more than 10 years. Analysis indicated that the differences were not significant (chi square = 1.87; $df = 2$; $p = 0.392$).

Table 3

Employees' Length of Employment

Years employed	Company A	Company J	Total
< 1 year	7 (15%)	10 (20%)	17
1-5 years	38 (79%)	33 (67%)	71
6-10 years	<u>3 (6%)</u>	<u>6 (13%)</u>	<u>9</u>
Total	48 (100%)	49 (100%)	97

Employees' positions were classified by their companies as either exempt (salaried) or nonexempt (paid on an hourly basis). Table 4 provides information about the distribution of exempt and nonexempt employees responding from each company. There were no significant differences between the two samples (chi square = 0.267; $df = 1$; $p = .60$).

Table 4

Distribution of Exempt and Nonexempt Employees

Rating	Company A	Company J	Total
Exempt	27 (56%)	25 (51%)	52
Nonexempt	<u>21 (44%)</u>	<u>24 (49%)</u>	<u>45</u>
Total	48 (100%)	49 (100%)	97

Job type included seven categories; clerical, manufacturing, accounting, sales, research and development, administration, and a miscellaneous category of other. Four of the employees from Company J listed "other" classifications, with two from purchasing and two from customer support. Table 5 identifies the distribution of participants' job classifications for each company. The differences between the two groups were not significant (chi square = 12.67; df = 8; p = .124).

Although the two sample groups were similar, the percentages of administrative personnel included in the sample should be noted. The entire population of both Company A and Company J were stated to be comprised of 10% administrative personnel. However, the percentages included in the samples were 21% and 29% for Company A and

Company J respectively. The most likely explanation for this occurrence is that exclusion of individuals who did not comprehend English resulted in a lesser random sampling of the manufacturing work group and a subsequently greater random sampling of the administrative work group.

Table 5

Employees' Job Type

Job Type	Company A	Company J	Total
Clerical	1 (2%)	8 (16%)	9
Manufacturing	21 (44%)	10 (20%)	31
Accounting	4 (8%)	4 (8%)	8
Sales	1 (2%)	2 (4%)	3
Research & Dev.	7 (14%)	7 (14%)	14
Administration	10 (21%)	14 (29%)	24
Other	<u>4 (8%)</u>	<u>4 (8%)</u>	<u>8</u>
Total	48 (99%)	49 (99%)	97

Note. Totals do not equal 100% due to rounding

The two companies' samples were comparable in terms of years of formal education as well. Table 6 indicates the years of formal education for the two groups of employees.

Testing indicated that there were no significant differences with respect to education (chi square = 3.08; $df = 4$; $p = .544$).

Table 6

Employees' Years of Formal Education

Years of Education	Company A	Company J	Total
< 12 years	1 (2%)	3 (6%)	4
12-14 years	26 (54%)	25 (51%)	51
15-16 years	10 (21%)	8 (16%)	18
17-18 years	10 (21%)	9 (18%)	19
> 18 years	<u>1 (2%)</u>	<u>4 (8%)</u>	<u>5</u>
Total	100%	99%	97

Note. Total of Company J's subjects does not equal 100% due to rounding

Table 7 summarizes information regarding employees' annual income. There were no significant differences between the two companies (chi square = 8.29; $df = 8$; $p = .50$)

Table 7

Employee's Income Levels

Annual Income	Company A	Company J	Total
< \$20,000	10 (21%)	9 (18%)	19
\$20-29,999	13 (27%)	17 (35%)	30
\$30-39,999	9 (19%)	5 (10%)	14
\$40-49,999	8 (16%)	6 (12%)	14
\$50-50,999	3 (6%)	3 (6%)	6
\$60-69,999	2 (4%)	5 (10%)	7
\$70-79,999	0 (0%)	3 (6%)	3
\$80-80,999	1 (2%)	1 (2%)	2
> \$90,000	<u>2 (4%)</u>	<u>0 (0%)</u>	<u>2</u>
Total	48 (99%)	49 (99%)	97

Note. Totals do not equal 100% due to rounding

The analysis of the demographic data supported further testing and analysis of the data. The similarity of the samples' demographic data suggested that any significant differences between the samples would be related to factors other than demographic variables.

Analysis of Findings

This section is structured by presentation of each hypothesis followed by analysis of the related findings.

Hypothesis 1. There will be no significant difference in the level of overall job satisfaction experienced by workers in a Japanese-owned and -managed company as compared with workers in a similar setting with traditional American management, when measured with respect to each of five employee needs.

Job satisfaction was measured with the Employee Needs Questionnaire. Subjects responded to 30 items by rating their current levels of job satisfaction. The 30 items represented 5 subscales: security needs, social needs, autonomy needs, self-esteem needs, and self-actualization needs. A two-sample t test was performed to evaluate subject responses from the two companies on each of the five subscales. No significant differences were found. Table 8 summarizes the results of the t tests.

Table 8

t-Test Results: Company A and J ENQ Satisfaction Subscales

Subscale	Company A Means	Company J Means	t	p
Security	4.04	3.87	0.80	0.43
Social	4.43	4.45	-0.12	0.89
Autonomy	5.10	4.66	1.72	0.08
Esteem	4.56	4.23	1.52	0.13
Self Actual.	4.80	4.61	0.68	0.49

Hypothesis 2. There will be no significant difference in the levels of occupational stress reported by workers in a Japanese- versus an American-owned and -managed company with respect to each of the 15 subscales of the Stress Diagnostic Survey.

Subjects responded to 60 questions on the SDS. The 60 items were divided into 15 stress subscales: politics, human relations development, rewards, participation, underutilization, supervision, organization, role ambiguity, role conflict, overload quantitative, overload qualitative, career progress, responsibility for people, time pressure, and job scope. The responses of the participants were analyzed by the two-sample t test. The

subjects from Company J indicated stress levels greater than those from Company A with relation to all 15 subscales. Seven of the subscales yielded statistically significant results: rewards, participation, underutilization, organization, role conflict, overload quantitative, and time pressure. Table 9 summarizes the t -test results for all stress subscales.

Hypothesis 3. There will be no significant difference in the importance placed on job satisfiers reported by workers in Japanese- and American-owned and -managed companies.

Importance of job satisfiers was measured with the Employee Needs Questionnaire. Subjects responded to 30 items by rating the level of importance accorded to each item. The 30 items represented 5 subscales; security needs, social needs, autonomy needs, self-esteem needs, and self-actualization needs. A two-sample t test was performed to evaluate subject responses from the two companies on each of the five importance subscales. No significant differences were found. Table 10 summarizes the results of the t tests.

Table 9

t-Test Results: Company A and J SDS Stress Subscales

Subscales	Company A Mean	Company J Mean	t	p
Politics	3.36	3.86	-1.94	0.055
HR Devel.	3.28	3.64	-1.34	0.18
Rewards	3.08	3.88	-3.08	0.003*
Participation	3.06	3.90	-3.50	0.0007*
Underutilization	2.94	3.58	-2.60	0.01*
Supervision	2.85	3.26	-1.52	0.13
Organization	2.76	3.40	-2.71	0.008*
Role Ambiguity	2.65	3.14	-1.64	0.10
Role Conflict	2.75	3.49	-2.73	0.008*
Overload Quan.	2.55	3.12	-2.23	0.03*
Overload Qual.	2.07	2.31	-1.31	0.19
Career Develop.	2.85	3.02	-0.59	0.55
Resp. for People	2.84	3.25	-1.43	0.15
Time Pressure	3.18	4.01	-2.62	0.01*
Job Scope	2.79	3.00	-0.82	0.41

Note. *p < .05

Table 10

t-Test Results: Company A and J ENQ Importance Subscales

Subscale	Company A Means	Company J Means	t	p
Security	4.20	4.31	-0.57	0.57
Social	4.23	4.56	-1.70	0.09
Autonomy	5.43	5.37	0.31	0.75
Esteem	4.97	5.04	-0.38	0.70
Self-Actual.	5.78	5.88	-0.49	0.62

Hypothesis 4. There will be no relationship between levels of job satisfaction and levels of job stress among employees of Japanese- and American-owned and -managed companies.

Responses to the SDS and ENQ were analyzed to determine whether relationships were present between the subscales. The Spearman correlation coefficients for each relationship were calculated. Overall, there was a negative relationship between job stress subscales and job satisfaction subscales. A total of 75 relationships were correlated for each company. The responses from the Company A subjects resulted in 49 statistically significant negative relationships, while the responses from Company J

subjects resulted in 44 statistically significant negative relationships ($p < .05$).

For Company A, the following significant negative relationships were found: (a) politics, human relations development, supervision, organization, role ambiguity, job scope, career development, and rewards were correlated negatively with security, autonomy, esteem, and self-actualization needs; (b) participation with security and self-actualization needs; (c) underutilization with security, esteem, and self-actualization needs; (d) role conflict, overload qualitative, and responsibility for people with autonomy, esteem, and self-actualization needs; (e) overload quantitative with autonomy and self-actualization needs; and (f) time pressure was correlated negatively with only self-actualization needs.

For Company J, significant negative correlations were found as follows: (a) politics, human relations development, underutilization, and supervision with security, social, autonomy, and esteem needs; (b) rewards and career development with security, autonomy, esteem, and self-actualization needs; (c) organization with security, social and autonomy needs; (d) role ambiguity and job scope with all five ENQ subscales; and (e) role conflict was correlated negatively with security and social needs.

Tables 11 and 12 present the Spearman correlation coefficients and probability statistics for Company A and Company J respectively.

Hypothesis 5. There will be no significant relationship between selected individual demographic variables and the levels of overall job satisfaction among employees of Japanese- and American-owned and -managed companies.

The data from the demographic survey and the job satisfaction subscale items of the ENQ were analyzed to determine whether relationships existed. A total of 60 relationships were correlated, and only 3 statistically significant correlations were found. Company A's subjects' responses indicated a statistically significant relationship between age and social needs satisfaction ($p = .02$), and between age and autonomy needs satisfaction ($p = .04$). Company J's subjects' responses indicated a significant negative relationship between length of employment and satisfaction of self-actualization needs ($p = .03$).

Table 11

Spearman Correlation Coefficients for SDS and ENQ
Satisfaction Subscales: Company A

SDS Subscale	<u>ENQ Satisfaction Subscales</u>				
	Security	Social	Autonomy	Esteem	Self-Act.
Politics	-.37**	-.20	-.35**	-.34*	-.32*
HR Devel.	-.33*	-.18	-.32*	-.31*	-.39**
Rewards	-.38**	-.11	-.33*	-.33**	-.36**
Participation	-.35**	-.05	-.22	-.26	-.32**
Underutiliz.	-.33*	-.008	-.23	-.28*	-.28*
Supervision	-.43**	-.16	-.32*	-.37**	-.37**
Organization	-.43**	-.24	-.31*	-.39**	-.41**
Role Ambiguity	-.43**	-.20	-.50***	-.59***	-.48***
Role Conflict	-.19	-.07	-.41**	-.29*	-.44***
Overload Quan.	-.21	-.03	-.28*	-.25	-.42**
Overload Qual.	-.26	-.08	-.40**	-.36**	-.41**
Career Devel.	-.31*	-.15	-.37**	-.38**	-.44***
Resp. People	-.24	-.24	-.31*	-.29*	-.41**
Time Pressure	-.01	-.05	-.19	.13	-.32*
Job Scope	-.41**	-.17	-.47***	-.48***	-.39**

Note. * indicates $p < .05$; ** indicates $p < .01$

*** indicates $p < .001$

Table 12

Spearman Correlation Coefficients for SDS and ENO
Satisfaction Subscales: Company J

SDS Subscale	ENO Satisfaction Subscales				
	Security	Social	Autonomy	Esteem	Self-Act.
Politics	-.35**	-.38**	-.32*	-.31*	-.26
HR Devel.	-.38**	-.33**	-.46***	-.32*	-.24
Rewards	-.38**	-.25	-.37*	-.43**	-.40**
Participation	-.48**	-.44***	-.28*	-.25	-.24
Underutiliz.	-.43**	-.43**	-.49***	-.48***	-.31*
Supervision	-.33*	-.39**	-.45***	-.29*	-.25
Organization	-.40**	-.51***	-.38**	-.18	-.28*
Role Ambig.	-.50***	-.41**	-.43**	-.43**	-.42**
Role Conflict	-.36**	-.27*	-.21	-.26	-.17
Overload Quan	-.09	-.01	.13	.13	-.23
Overload Qual.	-.06	-.23	-.20	-.05	-.08
Career Devel.	-.40**	-.24	-.33**	-.41**	-.56***
Resp. People	-.23	-.17	-.01	-.02	-.09
Time Press.	-.06	-.05	-.11	.04	-.11
Job Scope	-.50***	-.43***	-.53***	-.58***	-.57***

Note. * indicates $p < .05$; ** indicates $p < .01$

*** indicates $p < .001$

Hypothesis 6. There will be no significant relationship between selected individual demographic variables and the levels of occupational stress among employees of Japanese- and American-owned and -managed companies.

Data from the demographic survey and the SDS were analyzed to determine whether significant relationships existed. Ninety relationships for each company were evaluated using the Spearman correlation coefficient.

Twelve statistically significant relationships were identified for Company A, as indicated in Table 13. The greatest number of these correlations were between length of employment and the stress subscales. In general, the longer the period of employment, the greater the level of stress for the SDS subscales of politics, rewards, participation, supervision, role ambiguity, role conflict, overload quantitative, career development, responsibility for people, and job scope. Table 13 contains the Spearman Correlation Coefficient values for length of employment, income, and job type as correlated with the SDS stress subscales for Company A respondents.

Company J's data produced seven statistically significant relationships, as shown in Table 14. Length of employment was related significantly with the SDS subscales

rewards, organization, role ambiguity, overload quantitative, and career development. Income was related significantly to the SDS subscales of overload quantitative and responsibility for people. Table 14 contains the Spearman Correlation Coefficient values for length of employment, income, and job type as correlated with the SDS stress subscales for Company J respondents.

Table 13

Spearman Correlation Coefficients for Selected Demographic Variables and SDS Subscales: Company A

SDS Subscales	<u>Demographic Variables</u>		
	Years Employed	Income	Job Type
Politics	.36**	-.04	.04
HR Develop.	.27	-.03	.01
Rewards	.29*	.02	.05
Participation	.33**	.09	.12
Underutilization	.18	.04	.03
Supervision	.29*	.06	.009
Organization	.08	.06	.13
Role Ambiguity	.28*	.06	.08
Role Conflict	.34**	.08	.10
Overload Quan.	.35**	.29*	.25
Overload Qual.	.22	.07	.08
Career Devel.	.42**	-.04	.08
Respon. People	.28*	-.02	.17
Time Pressure	.12	.05	.27*
Job Scope	.27*	-.003	.01

Note. * indicates $p < .05$; ** indicates $p < .01$

Table 14

Spearman Correlation Coefficients for Selected Demographic Variables and SDS Subscales: Company J

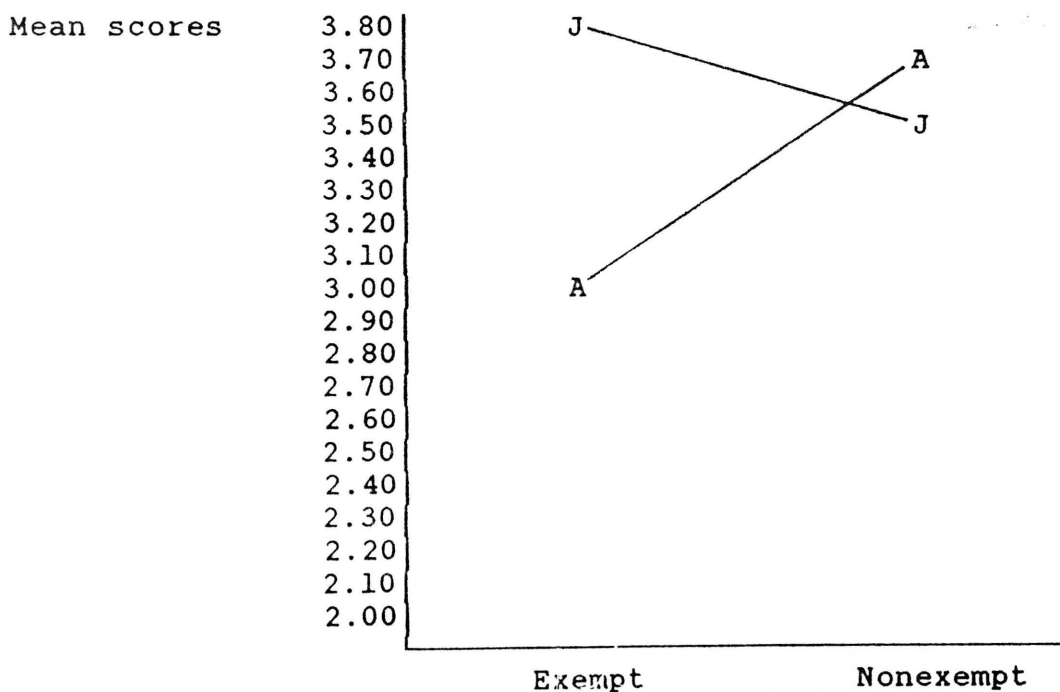
SDS Subscales	Demographic Variables		
	Years Employed	Income	Job Type
Politics	.05	.10	.15
HR Develop.	.12	-.09	.04
Rewards	.29*	.03	.05
Participation	.18	.20	.01
Underutilization	-.13	-.13	.12
Supervision	.10	-.07	.21
Organization	.32*	.14	.08
Role Ambiguity	.16*	.02	.11
Role Conflict	.15	.02	.002
Overload Quan.	.34**	.39**	.08
Overload Qual.	.08	.01	-.09
Career Devel.	.34**	.07	-.22
Respon. People	.18	.36**	.15
Time Pressure	.10	.26	.09
Job Scope	.19	.02	.12

Note. * indicates $p < .05$; ** indicates $p < .01$

Hypothesis 7. There will be no significant relationship between the job classification and the reported level of stress among employees of Japanese- and American-owned and -managed companies.

The demographic data for job classification, whether the individual was salaried or hourly, was analyzed with the SDS stress subscales to evaluate the interaction between these variables. The two-way ANOVA with interaction statistical analysis was utilized. Significant levels of interaction were found between job classification and three of the SDS subscales: human relations, organization, and responsibility. Each of these interactions was significant at the $p < .05$ level. In all cases, the relationships of stress subscale levels with exempt versus nonexempt employees were reversed for Company A and Company J. Figures 1 through 3 illustrate the interactions between these variables. Company A exempt subjects reported comparatively less stress on these subscales than their nonexempt counterparts, while Company J exempt subjects reported greater stress on these subscales than their nonexempt counterparts.

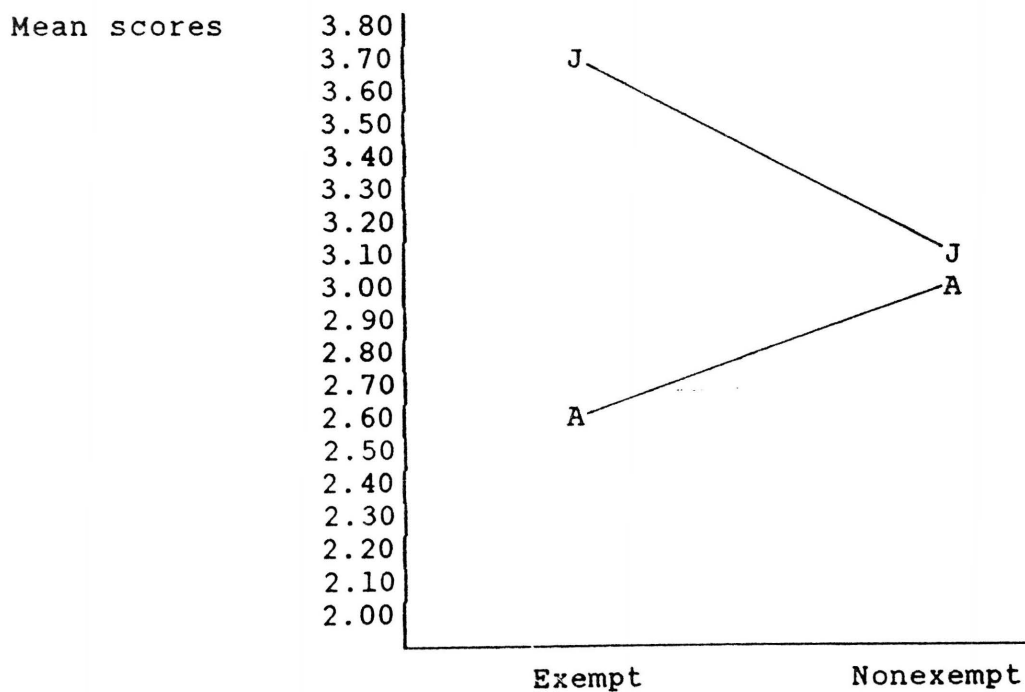
Human Relations SDS Subscale



Note. * $p = .05$

Figure 1. Analysis of Variance with Interaction: Exempt Versus Nonexempt Employees on SDS Human Relations Subscale

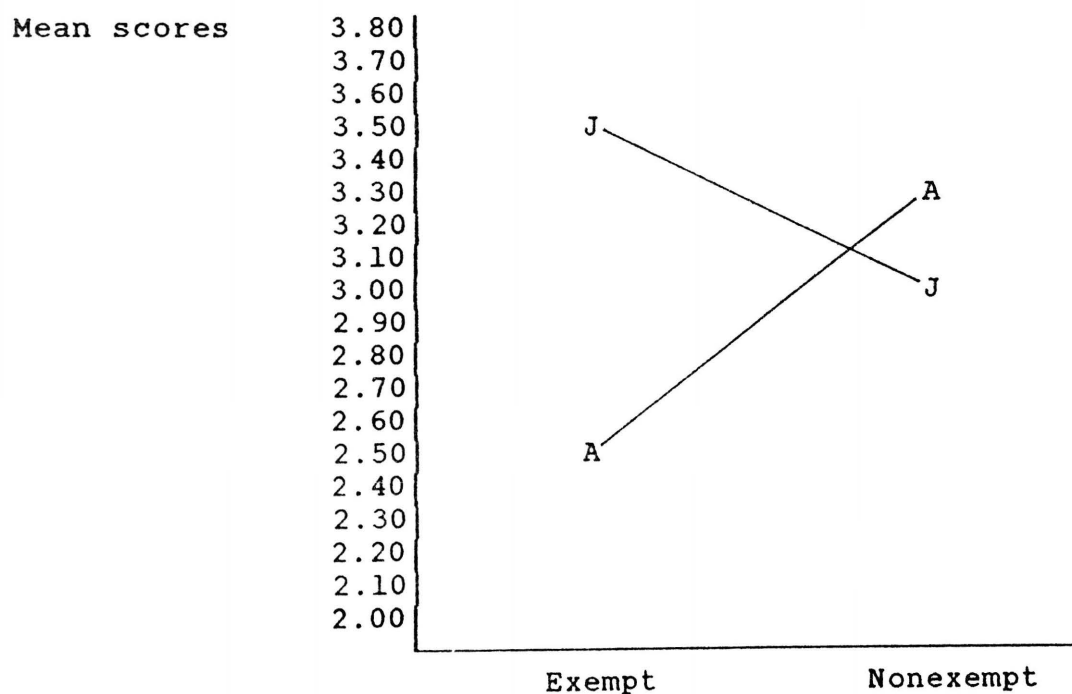
Organization SDS Subscale



Note. * $p = .04$

Figure 2. Analysis of Variance with Interaction: Exempt
Versus Nonexempt Employees on SDS Organization Subscale

Responsibility SDS Subscale



Note. * $p = .01$

Figure 3. Analysis of Variance with Interaction: Exempt Versus Nonexempt Employees on SDS Responsibility Subscale

Summary

The sample was described in terms of age, gender, length of employment, job classification, job type, years of formal education completed, and annual income. Each hypothesis was discussed with relationship to statistical testing and findings.

CHAPTER V
SUMMARY, FINDINGS, DISCUSSION, CONCLUSIONS, AND
RECOMMENDATIONS

This chapter provides a summary of the study, discussion and interpretation of the research findings, conclusions, implications, and recommendations for further study. Findings from this study are related to findings of previous research and existing management theory.

Summary

This two-sample correlational study was designed to quantify the levels of job satisfaction and occupational stress among employees of a Japanese-owned and -managed company (Company J) in comparison to those of an American-owned and -managed company (Company A), and to explore the importance of a number of job satisfiers for each group of workers. The two companies were located in the North Texas region. The sample included a total of 100 randomly selected subjects. Each individual attended a meeting for the purpose of completing the research questionnaires. Of the 100 returned questionnaires, 97 with apparent integrity were included in the data analysis.

These 97 questionnaires included 48 from Company A and 49 from Company J.

The questionnaires used to measure occupational stress and job satisfaction were the Stress Diagnostic Survey (SDS) and the Employee Needs Questionnaire (ENQ) respectively. A demographic survey instrument was developed by this researcher. The demographic survey included age, sex, length of time with the company, job classification, years of formal education completed, and annual income. Upon statistical analysis, using the chi-square technique, the two samples were found to be relatively similar with no statistically significant differences among the demographic variables.

Statistical analysis of the results of the SDS and ENQ used several different statistical techniques. The SAS computer analysis program was employed to run two-sample t tests, Spearman Rho correlational coefficients, and analysis of variance (ANOVA) with interactions.

Discussion and Interpretation of the Findings

The discussion of findings is structured by an analysis of the findings for each hypothesis. Pertinent findings from previous studies and concepts of management theory are included in the discussion of findings.

For hypothesis 1, a two-sample t test was performed to evaluate subject responses from the two companies on each of the five satisfaction subscales. No significant differences were found. The results, though not significant, were meaningful with respect to autonomy needs. The mean scores for satisfaction of autonomy needs were 5.1 and 4.66 for Company A and J respectively; however, statistical analysis indicated that the respondents from Company A were not significantly more satisfied with their levels of autonomy than those from Company J. This finding was not consistent with the literature on the Japanese management style, for which gaining consensus traditionally has been an important factor in conducting business. The need for consensus in the Japanese company has diminished, to a certain degree, the opportunity for autonomy and independence in the workplace (Morita, 1986; Ouchi, 1981; Pascale & Athos, 1981; Schonberger, 1982; & Sethi, Namiki, & Swanson, 1984). Previous research has identified the positive relationship of autonomy with job satisfaction and performance (Srivastva et al., 1975).

For Hypothesis 2, the responses of the participants were analyzed by the two-sample t test. It was found that the subjects from Company J indicated stress levels greater

than those from Company A with relation to all 15 subscales. The subscales of rewards, participation, underutilization, organization, role conflict, overload quantitative, and time pressure were found to be significant at the $p < .01$ level of significance.

The findings related to Hypothesis 2 also can be related to the literature pertaining to Japanese management style. Each of the 7 subscales with significant findings will be defined and discussed.

Rewards, for the purpose of the SDS, have been defined as the extent to which stress is created by the lack of relationship between performance and rewards. The reward system in Japanese businesses has been documented as very different from that of American businesses (Hellriegel & Slocum, 1986; Ouchi, 1981; & Sethi, Nomiki, & Swanson, 1984). "The American culture is based on individualism and personal achievement....enormous energies are spent in defining jobs, measuring performance, and developing various financial systems that will match reward to performance" (Sethi et al., 1984, p. 127). Herzberg (cited [excerpted] in Vroom & Deci, 1970) identified motivators as including achievement, recognition, and advancement, which can be categorized as rewards.

Japanese firms operate under the systems of seniority and collectivism. "The remuneration of a worker is determined primarily on the basis of the number of years he has spent with the company, subject to age and level of education at the time of entry" (Sethi et al., 1984, p. 44). This system of slow promotion has been found to contrast sharply with the desire of American workers to advance quickly (Bennis, 1989).

The participation subscale is defined as the extent of stress created because management is not receptive to input from employees. The difference between Japanese consensus and American participative management may be one plausible explanation for the higher scores of employees of Company J on this stress subscale. American workers have been subject to participative management styles in which the individual traditionally has been encouraged to make suggestions, and where individuals have been praised for their contributions. Japanese management has relied traditionally on consensus or ringi (Schonberger, 1982). The emphasis for Japanese companies has been on the success of the group as a whole, rather than on individual input and recognition. Again, the difference between the philosophies of American individualism and Japanese collectivism may have played a role.

The third stress subscale with significant results was the underutilization scale. This was defined as the extent of stress created because job assignments are not challenging and do not require full use of skills and abilities. According to Rohlen (1974), promotion in the Japanese business has been viewed as a reward for "years of service to the organization...rather than an attempt to match the abilities of men with work requirements" (p. 150).

Company J's respondents scored significantly higher on the stress subscales of organization and role conflict than did Company A's respondents. Organization stress has been defined for the purpose of the SDS as the extent of stress caused by the organizational structure. Role conflict has been defined as the extent of stress created because an individual is presented with conflicting demands or an unclear chain of command. The Japanese management system has been characterized by "its lack of rigid structure and open communication system" (Sethi et al., 1984, p. 237). This structure has been related to the consensual decision making system used by the Japanese.

In contrast, the American management style has been identified closely with strong organizational structures and single chain-of-command since the time of Henri Fayol's

administrative management model (cited in Hellriegel & Slocum, 1986). These organizational structures have the effect of putting workers in a structure which lends security. Beer (1966) found that those managers who initiated structure motivated workers positively.

The final two SDS subscales for which there were significant findings were the overload quantitative and time pressure scales. Again, the mean scores for Company J were significantly higher than those of Company A. The Japanese system has been identified with high levels of productivity. Just-in-time production "...leads to higher quality and productivity" (Schonberger, 1982, p. 15). Increased productivity has been achieved by various methods, including increased workload of individual employees.

For Hypothesis 3, a two-sample t test was performed to evaluate subject responses from the two companies on each of the five importance subscales. No significant differences were found. Maslow's hierarchy of needs indicates that once the physiological need level has been met, all humans strive to meet the needs of security, belongingness, self-esteem, and self-actualization. This finding supports the concept that individuals tend to place

a similar amount of importance on meeting these needs (Maslow, 1943).

For Hypothesis 4, each of the 75 Spearman correlation coefficients calculated for Company A and Company J resulted in negative relationships between the occupational stress and job satisfaction subscales. The responses from Company A subjects resulted in 49 statistically significant negative relationships, while the responses from Company J subjects resulted in 44 statistically significant negative relationships ($p < .05$).

These results were strongly supportive of other research (French & Caplan, 1973; Hendrix et al., 1985; Howard et al., 1986; & Zautra et al., 1986). In all of these studies, the higher the level of occupational stress, the lower the level of job satisfaction. The results for Company A and Company J were indicative of few dissimilarities in the area of correlation between occupational stress and job satisfaction.

For Hypothesis 5, the data from the demographic survey and the Job Satisfaction items of the ENQ were correlated and only three statistically significant correlations were found. Company A's subjects' responses indicated a statistically significant relationship between age and social needs satisfaction ($p = .02$), and between age and

autonomy needs satisfaction ($p = .04$). Company J's subjects' responses indicated a significant negative relationship between length of employment and satisfaction of self-actualization needs ($p = .03$).

For Hypothesis 6, data from the demographic survey and the SDS were evaluated using the Spearman Correlation Coefficient. Of a total of 90 relationships tested, Company A yielded 19 statistically significant relationships. These relationships were primarily between the length of employment and the stress subscales. In general, the longer the period of employment, the greater the level of stress for selected SDS subscales. Company J yielded seven statistically significant relationships. Five of these related to length of employment and two to income.

The analysis of these results did not replicate those of other studies reviewed by the researcher. It was of interest that the two companies overlapped with statistically significant results related to length of employment and SDS subscales of stress related to rewards, role ambiguity, overload quantitative, and career development. In addition, Company A had significant relationships between length of employment and the stress subscales of politics, participation, supervision, role

conflict, career development, responsibility for people, and job scope.

The demographic data for job classification was analyzed with the SDS stress subscales to evaluate the interaction between these variables for Hypothesis 7. Significant levels of interaction were found between job classification and the SDS subscales of politics, organization, and responsibility. Each of these interactions was significant at the $p < .05$ level.

In all cases the salaried employees of Company J experienced higher stress levels than did their salaried counterparts at Company A and the hourly employees of Company J. Conversely, the salaried employees of Company A experienced lower stress levels than either the salaried employees of Company J or the hourly employees of Company A. Salaried employees were primarily found in the job categories of administration, research and development, and sales. Hourly employees were found primarily in job categories of clerical, accounting, and manufacturing.

This finding was consistent with those of DeFrank et al. (1985). In their study of Japanese and American CEOs, it was found that the Japanese CEOs experienced significantly greater job stress than their American counterparts. The researchers attributed the higher level

of stress for the Japanese as a result of the ringisho system, whereby the most important job of the CEO is to develop and sustain harmony within the organization. The development of consensus was described as a time consuming process of continuous communication and participation throughout the organization. This was contrasted with the decision-making process in the United States, where it "... tends to be a 'top down' process, with clearly defined lines of authority and responsibility" (DeFrank et al., p. 64).

Conclusions

The analyses of the findings led to the following conclusions regarding the hypotheses:

Hypothesis 1. There will be no significant difference in the level of overall job satisfaction experienced by workers in a Japanese-owned and -managed company as compared with workers in a similar setting with traditional American management, when measured with respect to each of five employee needs. NOT REJECTED.

Hypothesis 2. There will be no significant difference in the levels of occupational stress reported by workers in a Japanese- versus an American-owned and -managed company with respect to each of the 15 subscales of the Stress Diagnostic Survey. REJECTED.

Hypothesis 3. There will be no significant difference in the importance placed on job satisfiers reported by workers in Japanese- and American-owned and -managed companies. NOT REJECTED.

Hypothesis 4. There will be no relationship between levels of job satisfaction and levels of job stress among employees of Japanese- and American-owned and -managed companies. REJECTED.

Hypothesis 5. There will be no significant relationship between selected individual demographic variables and the levels of overall job satisfaction among employees of Japanese- and American-owned and -managed companies. REJECTED.

Hypothesis 6. There will be no significant relationship between selected individual demographic variables and the levels of occupational stress among employees of Japanese- and American-owned and -managed companies. REJECTED.

Hypothesis 7. There will be no significant relationship between the job classification and the reported level of stress among employees of Japanese- and American-owned and -managed companies. REJECTED.

Implications

The analyses support the concept that the Japanese management style is more stressful for American workers than the contingency American management style; however there is little difference in the amount of job satisfaction gained. The concept that occupational stress is negatively related to job satisfaction was strongly supported by both groups.

The Japanese management style has some factors which are at odds with the philosophies of American workers. The two concepts that appeared to most effect the stress levels of the employees were those of collectivism, with its emphasis on consensus, and the tremendous value placed on seniority and long-term service to the company. The American workers demonstrated a need to succeed, to be recognized individually, and to be rewarded for that success. In addition, their responses indicated a need for more structure regarding formal work relationships. These findings could be integrated with the Japanese management style to create a less stressful working environment in the Japanese companies that employ American workers.

The results of the correlations of demographic data with stress subscales demonstrated that there were some differences between the companies related to length of

employment. The respondents from Company J reported significant stress related to length of employment on 5 of the 15 subscales, while those from Company A reported significant results on 10 of the subscales. This was indicative that long-term employment with Company J was less stressful than with Company A.

The interactions between the job classifications of salaried and hourly workers with the stress subscales were of significance. The question of why American exempt employees would have significantly less stress than their American nonexempt employees or Japanese exempt employees deserves further study.

The impact of the physical work environment was not addressed. Several employees of Company J remarked verbally that the major source of their stress was not reflected on the research tools. The Japanese companies tend to favor open work areas, and there are not any partitions between desks in Japan. Company J has provided shoulder height partitions between the work areas, but conversations are easily overheard and visual contact is frequent. Apparently, the lack of privacy afforded by the design of the work environment was of concern to those individuals who approached the researcher, and may have been to others.

One factor which limits the generalization of this study is that the actual management practices of Company A and Company J were not evaluated. It was assumed in the study that a "Japanese management style" would be present in a Japanese-owned and -managed company with its home office in Japan and with a native Japanese top manager. The moderating effect of American middle managers was not quantified, although this was recognized in the limitations of the study. In addition, the management style at Company A could have been anywhere on a continuum from a strictly traditional style to a very participative contingency management style.

Recommendations for Further Study

The findings of the study provided support for the following recommendations:

1. Replicate the study while simultaneously evaluating the management practices to provide for a more direct analysis in which the impact of a specific management style can be correlated to occupational stress and job satisfaction.
2. Include questions in the survey regarding the relationship between the physical work environment and occupational stress and job satisfaction.

3. Incorporate a short, structured interview with a portion of the sample to reveal other stressors which could add to the study's significance.

4. Include a short survey pertaining to current lifestyle habits and stress reduction practices, which would be beneficial in the interpretation of results.

5. Select a sample in which the percentage of employees of a particular job type corresponds directly with the percentage of employees of that job type in the entire population. For example, if 10% of the population is administrative, then 10% of the sample will be administrative.

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APPENDICES

APPENDIX A
Letters of Permission

Fred Dorin
President

FD Associates
P.O. Box 31753
Houston, Tx. 77231
(713) 932-4440
Fax: (713) 729-1203

September 18, 1989

Deborah R. Garrison
1137 Southwood Court
Lewisville, Texas 75067

Dear Deborah,

I understand that you are interested in using the Stress Diagnostic Survey in a graduate research project.

For your information, I have enclosed with this letter a new version of the Stress Diagnostic Survey (Form B) that is geared for organizational assessment. Note that Form B has two new stressor scales (Workflow and Technology) and stress outcome items.

I have also enclosed (at your request) a specimen set of the original Stress Diagnostic Survey (Form A) with an invoice attached.

I hereby authorize you to reproduce 250 copies of the Stress Diagnostic Survey (Form A or Form B) for your study conducted under the auspices of the Texas Woman's University.

As you know, we are interested in doing further research to validate and refine the Stress Diagnostic Survey. Therefore, we request that you send us a copy of your final report.

Please write or call if you have any questions.

Sincerely yours,

Fred Dorin
Fred Dorin

Attachments

Business Research Support Services

College of Business
1775 College Road
Columbus, OH 43210-1309
Phone 614-292-9300

August 31, 1989

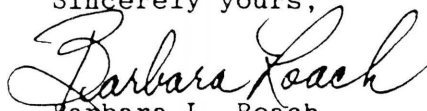
Ms. Deborah R. Garrison
1137 Southwood Court
Lewisville, TX 75067

Dear Ms. Garrison:

You have our permission to use and duplicate the
EMPLOYEE NEEDS QUESTIONNAIRE for your dissertation.

Please follow the guidelines listed in the attached
Statement of Policy.

Sincerely yours,


Barbara L. Roach
Director

BLR
ahr

enclosure

STATEMENT OF POLICY

Concerning the Leader Behavior Description Questionnaire and Related Forms

Permission is granted without formal request to use the Leader Behavior Description Questionnaire and other related forms developed at The Ohio State University, subject to the following conditions:

1. Use: The forms may be used in research projects. They may not be used for promotional activities or for producing income on behalf of individuals or organizations other than The Ohio State University.
2. Adaptation and Revision: The directions and the form of the items may be adapted to specific situations when such steps are considered desirable.
3. Duplication: Sufficient copies for a specific research project may be duplicated.
4. Inclusion in dissertations: Copies of the questionnaire may be included in theses and dissertations. Permission is granted for the duplication of such dissertations when filed with the University Microfilms Service at Ann Arbor, Michigan 48106 U.S.A.
5. Copyright: In granting permission to modify or duplicate the questionnaire, we do not surrender our copyright. Duplicated questionnaires and all adaptations should contain the notation "Copyright, 19—, by The Ohio State University."
6. Inquiries: Communications should be addressed to:

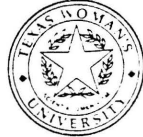
Business Research
The Ohio State University
1775 College Road
Columbus, OH 43210

TEXAS WOMAN'S UNIVERSITY

DENTON DALLAS HOUSTON

DEPARTMENT OF HEALTH STUDIES

College of Health Sciences, P.O. Box 22808 Denton, Texas 76204 817/898-2860



October 24, 1990

[Name and address of
"Company A" withheld
to protect anonymity]

Dear

Thank you for talking with me about the study I will be conducting to complete my doctorate in Health Studies at Texas Woman's University. I appreciate your interest.

I have enclosed a copy of my prospectus and the two questionnaires I will be using to measure job stress and job satisfaction. As we discussed, the identity of the companies involved in the research will not be revealed in any future publications. Employees participating in the study will not indicate their names on the questionnaires, so their anonymity will be preserved.

The responsibilities of the participating companies will be to:

1. Assist in the selection of a random sample of fifty employees; assuring that those selected are fluent in the English language
2. Allow for distribution of questionnaires to employees at the work site
3. Coordinate meeting times and places for employees selected into the sample to complete the questionnaires
4. Assist in random selection of additional subjects in the event that any of those initially selected decide not to participate in the study

The responsibilities of the researcher will be to:

1. Explain the questionnaires to the participants

4. Provide a copy of the analyzed data to the Human Resources Administrator for distribution to employee participants in a manner consistent with management philosophy and policy

I hope that after reviewing the enclosed information you will decide that _____ will participate in the study. If this is the case, please sign at the bottom of this letter to indicate your approval. I will call you on Friday. Thanks again for your time.

Sincerely,

Deborah R. Garrison, M.S., R.N.

The signature on the following line indicates a commitment of the company to participate in the study Occupational Stress and Job Satisfaction Related to Management Styles of American- and Japanese-Owned Companies in America. The study will be conducted by Deborah R. Garrison and data collected will be reported in the doctoral dissertation. The identity of the company will be protected.

Authorizing Signature: *Deborah R. Garrison*

Position: *Human Resources Administrator*

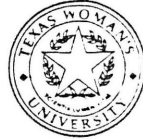
Date: *May 1987*

TEXAS WOMAN'S UNIVERSITY

DENTON DALLAS HOUSTON

DEPARTMENT OF HEALTH STUDIES

College of Health Sciences, P.O. Box 22808 Denton, Texas 76204 817/898-2860



October 24

[Name and address of
"Company J" withheld
to protect anonymity]

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The responsibilities of the researcher will be to:

1. Explain the questionnaires to the participants

4. Provide a copy of the analyzed data to the Vice President of Human Resources for distribution to employee participants in a manner consistent with management philosophy and policy

I hope that after reviewing the enclosed information you will decide that _____ will participate in the study. If this is the case, please sign at the bottom of this letter to indicate your approval. I will call you on Friday. Thanks again for your time.

Sincerely,

Deborah R. Garrison, M.S., R.N.

The signature on the following line indicates a commitment of the company to participate in the study Occupational Stress and Job Satisfaction Related to Management Styles of American- and Japanese-Owned Companies in America. The study will be conducted by Deborah R. Garrison and data collected will be reported in the doctoral dissertation. The identity of the company will be protected.

Authorizing Signature: Michael

Position: Vice President, HR

Date: 12/25/90

APPENDIX B

Oral Explanation to Participants

ORAL EXPLANATION TO PARTICIPANTS

I am Debbie Garrison, a doctoral candidate in the Texas Woman's University Health Sciences Department. I am currently writing my dissertation which is a requirement for the Doctor of Philosophy degree. The research for my dissertation involves occupational stress and job satisfaction. I have obtained authorization from your company for you to participate in this research.

I will be asking you to complete two questionnaires. These items might take up to one hour for completion. Serving as a participant is strictly voluntary. If at any time during completion of the instruments you wish to withdraw, this can be done simply by returning your unfinished questionnaire. Return of the completed questionnaires will be understood as your consent to participate in the study.

The purpose of this study is to better enable health educators and managers to understand the interrelationships between stress and job satisfaction. Through this study and others like it we will be able to contribute to a higher quality of work life.

All questionnaire results are anonymous, as your name will not appear anywhere on the document. The data will be statistically analyzed, and results of the study will be reported to your Human Resources Department.