CHAPTER TWO
REVIEW OF LITERATURE

Job stress can be positive or negative; for example, a promotion can be seen as a positive stress if the employee thinks that the promotion will create a good result whereas negative stress occurs when an individual realizes that a job is meaningless and cannot create important values (Sethi & Schuler, 1984, p. 36).

This chapter reviews the literature in four main areas along with a summary: the concept of stress, the theory of stress, the job stress models, and relevant research.

2.1 THE CONCEPT OF STRESS

It has been concluded in several different reviews of the scientific literature on stress that there are three approaches to the definition and study of stress (Broome & Llewelyn, 1994).

The first approach is the "engineering model" which conceptualizes job stress as aversive characteristic of the work environment. A related study treats it as an independent variable-- the environmental cause of bad health.

The second approach is the "physiological model" which defines stress in terms of the common physiological effects of noxious stimuli. It treats stress as an individual response to a harmful environment.

The third approach is the "psychological model" which conceptualizes work stress in terms of the dynamic interaction between the person and their work environment. From the study, stress is either inferred from the existence of problematic person-environment interactions or measured in terms of the cognitive and emotional process that support those interactions.

It is said that the engineering and physiological models are obvious among the theories of stress, while the psychological model characterizes contemporary stress theory.

2.1.1 Engineering Approach

The engineering approach has treated stress as a stimulus characteristic of the environment of a person, usually an individual's requirement term, or some noxious

element of that environment (Broome&Llewelyn, 1994). Occupational stress is treated as a property of the work environment, and usually as an impartially measurable aspect of that environment.

Symonds (1997) exhibites the relation to psychological disorders in the Royal Air Force flying personnel that “stress is that which happens to the man, not that which happens in him; it is a set of causes not a set of symptoms.” According to this approach, stress makes a strain reaction which can be either reversible or irreversible and damaging depending on occasion. (Broome&Llewelyn, 1994).

In brief, the threshold of stress concept as this way of thinking and individual differences has been used to explain the differences in stress resistance and vulnerability.

2.1.2 Physiological Approach

Stress, according to the physiological approach, is defined as a syndrome of generalized and non-specific physiological response.

Selye (1956) defines stress as “a state manifested by a specific syndrome which consists of all the non-specific changes within the biological system” that occur when faced with aversive or noxious stimuli. He also argues that stress is the “diseases of adaptation” of short-term advantage to long-term disadvantage. Concisely, stress in the short period increases a person’s ability to react to an endangered environment; on the contrary, the physical reaction can lead to diseases in the long period if stress still continues.

2.1.3 Psychological Approach

The concept of stress according to the third approach is defined in terms of the dynamic interaction between the person and their environment. In Lazarus’s view (1984, 1993), stress does not occur from a life event itself, but it is a person’s opinion about the situation that causes an event to become stressful. The person’s perception of the psychological situation is the critical factor. This perception includes potential harm, threats, challenges, and the ability to cope with them.

2.1.4 The Other Job Stress Models

The concepts of job stress according to Euro Review on Research in Health and Safety at Work (1997) are divided into two models:

2.1.4.1 *The job strain mode*l explains stress as the result of high job demands and low job control. The manner in which the working people are evaluated depends on the factors beyond their control.

2.1.4.2 *The effort-reward imbalance model* considers the job stress as a function of a work effort such as high workload, required to do a perfect job accompanied by low reward. These rewards include salary, esteem, and job status on the other. According to this model, demanding tasks under insecure conditions, lack of promotion, and low wages compared to qualifications may in the long run threaten the employees' health and well-being.

2.2 THE THEORY OF STRESS

Theories of stress focus on the structural characteristics of the person's interaction with their work environment. Two interactional theories include the Person-Environment Fit theory of French et al. (1982) and the Demand–Control theory of Karasek (1979).

2.2.1 Person - Environment Fit

French, Caplan & Harrison (1982) suggests that the goodness of fit between the person and their work environment offers a better explanation of behavior than individual or situational differences (Broome & Llewelyn, 1994).

As a result of such observations, French and his colleagues formulate a theory of work stress based on the concept of the Person-Environment Fit with two aspects. Firstly, the degree to which an employee's attitudes and abilities meet the job demands. Lastly, the extent to which the job environment meets the workers' needs, particularly the permission and encouragement to use their knowledge and skills in the job setting. It has been said that when there is no fit in either or those both aspects, stress tends to happen and is likely to affect well-being or health (Broom & Llewelyn, 1994).

French has reported on a large survey of work stress and health in 23 different occupations in the United States and a sample of 2,010 working men. They argue that their subjective measures mediated the effects of objective work on health. Their data shows that there is a good correspondence between the objective and subjective measures and that the effects of those objective measures on self-reported health can be very largely explained by the subjective measures. This has been reflected more recently in the work of various researchers (Bosma & Marmot, 1997; Chen&Spector, 1991; Jex & Spector, 1987, 1991).

2.2.2 Demand - Control Model

Karasek (1979) has suggested that two characteristics: decision latitude and job demands may indirectly connect with health. He defines “decision latitude” as the capacity to manage tasks and conduct of the working people during the working day, and defines “job demands” as the psychological stressors involve in achieving the workload. He initially demonstrates this theory through secondary analyses of data from United States and Sweden, finding that employees who experienced both low decision latitude and high job demands are likely to report poor health and low satisfaction. Later studies appear to confirm the theory.

It is argued that a certain level of work can be considered healthy and stimulating; on the contrary, an extreme degree of work can become job obsession and leads to the inability to relax after work, with the risk of negative health effects (Rotheiler et al., 1997).

2.2.3 The Cause of Stress in the Workplace

Cartwright and Cooper (1997) have explained factors linked to stress in an organization as follows:

The intrinsic aspects to the job

The factors that cause stress in the workplace can be subdivided into six points as below:

First, *The working conditions* include the physical surrounding or physical setting of the workplace such as noise, lighting, smells that can affect mood and overall mental state.

Second, *Shift work* many studies found that it is a common occupational stressor that affects blood temperature, metabolic rate, blood sugar levels, mental efficiency, and work motivation. It also influences sleep patterns and family and social life.

Third, *Long working hours* required by many jobs appear to affect employee health.

Fourth, *Travel* consists of traffic jams, delayed flights or trains, people, and the logistics of unknown places that can present stressful challenges.

Fifth, *The new technology*; for example, the managers in developing countries felt pressure due to the increasing emphasis on technology, the need to deal with an inadequately trained workforce, and the imposition of deadlines.

Lastly, *The work overload* which have two different types:

- Quantitative overload refers to having too much work to do.

- Qualitative overload refers to work that is too difficult to do.

The Role in the organization

This factor describes three types as per the following**:**

First, *the role ambiguity* that may occur when an individual does not have a clear picture of work objectives, coworkers' expectations, and the scope and responsibilities of his or her job which can link to a depressed mood, lowered self-esteem, life dissatisfaction, low motivation at work, and the intention to leave a job.

Second, *the role conflict* that exists when an individual is torn by conflicting job demands; doing things he or she really does not want to do or things that are not considered to be a part of the job.

Third, *the responsibilit*y for people who have been found stressful. The older the executive and the more responsibility held by the person, the greater the probability of detecting coronary heart disease risk factors or other relevant illness.

The relationships at work

This factor can be explained as following:

The first one is *the relationship with boss.* The problems with emotional stability often result when the relationship between subordinate and a boss is psychologically unhealthy for one reason or another.

The next is *the relationship with subordinates.* The way which a manager supervises the work of others has always been considered a critical feature of any job.

The last one is *the relationship with colleague*. Since most people spend so much time at work, relationship between coworkers can provide valuable support or conversely, can be a significant source of stress.

Career development

This factor comprises two criteria as follows:

***Job security*:** Fear of demotion or obsolescence can be overpowering for those who believe they will suffer some erosion of status before retirement.

***Job performance*:** The process of being evaluated and appraised can be a stressful experience for both an individual being examined and a person doing the judging and appraising.

2.2.4 The Effects of Stress in the Workplace

Health problems

The World Health Organization has considered job stress as the twentieth century global epidemic (Greenberg, 2006). Stress lowers the effectiveness of the immunological system by decreasing the number of white blood cells that identify and destroy all substances foreign to the body. A less-effective immunological system is suspected of resulting in allergic reactions, asthma attacks, and even cancer.

Stress results in increased muscle tension and causes tension headache, backache, neck and shoulder pain, affecting a worker's ability to do physical work such as lift, walk, or even sit. Moreover, stress decreases the capacity of people's interaction with each other, their abilities to think or concentrate or effectively socialize with others.

Sethi and Schuler (1984) have stated that some of the major health problems associated with stress in an organization include neuroses, coronary heart disease, alimentary conditions such as dyspepsia and ulcers, cancers asthma, high blood pressure, backaches. Another concern is the related use of alcohol which increases illness for those working under stressful conditions.

Symptoms of job stress include: blood pressure, high cholesterol levels, fast heart rate, smoking, depressive mood, escapist drinking, job dissatisfaction, headaches, fatigue, absenteeism, and reduced aspiration.

Greenberg (2006) has claimed that there are many diseases affected by stress such as hypertension, coronary heart disease, ulcers, migraine headaches, tension headaches, backache and mental illness.

Cost exposure and business concerns

According to http://www.stressdirections.com, back pain cases has been on the rise for industrial health and workers compensation in the U.S. As evident from Liberty Mutual, a major insurance company in the U.S. showed that 25% of low back pain cases cost 95% of the expense of low back pain.

It was estimated in 1992 by the International Labor Organization that stress on the job cost businesses $200 billion per year. These costs include salaries for sick days, costs of hospitalization and out-patient care, and costs related to decreased productivity. (Greenberg, 2006, p.279). As a result, the effects of job stress have attracted the attention of many business enterprises to offer various programs to accommodate the employees, aimed at decreasing job stress. These are some examples that many companies in the U.S. organize for the employees.

Flex time

Some companies allow working people to consider their lifestyles and non-work-related priorities when scheduling their hours of work. Flextime arrangements are attractive to many job seekers. More than 80 percent of young men between the ages of twenty and thirty-nine prefer spending time with their families to challenging work or earning a high salary.

Child care program

Many companies offer this program to lessen stress associated with leaving children during work; for example, Chase Manhattan Bank allows the employees twenty days free care per child each year. Parents did not miss work because of the need to take care of a child, and could concentrate on work. A cost analysis found this program saved Chase Manhattan $825,000 in 1996.

Elementary school

Some firms open their own school for the employees' children in order to decrease employee absenteeism, and reduce job turnover. American Bankers Insurance Group is one of the many companies to set up a school found that this program saved the company $475,000 per year.

Free chair massages at workers' desks

Many companies allow massages for the employees, aimed to relieve workload burdens and diminish the effects of rush-hour traffic on the employees.

Concierge service

This program is very popular in many large businesses. One of them is Texas Instruments Company which is a founder of this program. The employees can call the concierge to set up a birthday party for a child, and pay only the cost of the party. The company helps pay for the concierge service.

The other programs that also benefit the employees include *a chef-prepared take-home meal, discounts on home computer equipment, and elderly care programs for employees' parents or grandparents.*

2.4 RELEVANT RESEARCH

Selye (1950) has found that the human brain fails to develop the speed to respond to symbolic stressors of twentieth-century life. The brain prepares the body with the fight-or-flight response. If the threat to self-esteem stems from fear of embarrassment during public speaking, neither fighting nor running away is an appropriate reaction (Greenberg, 2006).

According to Selye (1956), stress is a biological process in which the body tries to mobilize its energy, to fight disease and survive. Three stages of body reaction

are mentioned. The first state calls "alarm"; the body produces high levels of hormones, releases energy, has muscle tension, and increases the heart rate to defend from an attack on the environment. The stage of "adaptation" is the second phase which the body's biological processes appear to return to normal as the threat has been successfully dealt with. The final phase is "exhaustion" which most primary biological systems begin to fail from the overwork of trying to adapt. This can result in serious disability or death.

Levi (1972) has further developed the physiological approach to stress and also recognized the importance of psychological factors as primary determinants of the stress sources. He proposed a model that links "psychosocial stimuli" with disease. In this model, any psychosocial stimulus; for instance, any event that takes place in the social environment at work as well as outside work can act as a stressor.

Several intervening variables (individual characteristics, coping strategies or social support) link between psychosocial stimuli and disease. These feedback loops are important to understand why stress reactions and disease can act as stressors or mediate the effect of stressors on the individual.

Lazarus (1976, 1984,) has suggested that physiological changes arise from a need for action resulting from emotions. The quality or intensity of the emotional reaction and its resultant physiological and behavioral changes depend on cognitive appraisal of the present or anticipated significance of the interaction with the environment or its "threat" to security and safety.

According to Lazarus, cognitive processes not only determine the quality and intensity of the emotional reaction, but also define coping activities which may affect the emotional reaction. There are different ways that the coping activities affect health (Murphy, 1985); for instance, health outcomes may be affected by a coping style that influences the frequency, intensity and patterning of neuroendocrine stress responses. Particular coping style such as problem-focused coping is associated with increased physiological mobilization (Baum et al., 1983).

Friedman; Rosenman, and Carrol's study (as cited in Greenberg 2006, p.38) investigated the relationship between stress and cholesterol of accountants during times of the year when they had deadlines to meet; for example, when tax returns had to be prepared. The researchers found that average cholesterol increased dramatically.

In one study, seventy percent of woman having a miscarriage have at least one stressful experience four to five months before the miscarriage. For older women who are carrying their first pregnancy, stress is also involved with premature delivery (Greenberg, 2006, p.52).

Another study has found that thirty six percent of people who suffer from moderate to severe headache pain are unable to obtain or keep full-time work at some time during the three-year study period (Greenberg, 2006, p. 45).

According to Unscheduled Absence Survey, absences from stress tripled from 6 percent to 19 percent during 1995-1999. In addition, absenteeism attributed to mentality; for example, the employees call in sick but are not sick increased from 9 percent to 19 percent. Between 1995 and 1996, there was a 100 percent increase in absences due to mental health reasons. More than three-fourths of the employees in 1999 were not sick when they called in sick (Greenberg, 2006, p. 280).

One study found 78 percent American people complained that work was their biggest source of stress, only 35 percent said they received pleasure or satisfaction from their jobs, and half reported that they had more stressful lives over the previous ten years. In 1983, 55 percent of people reported experiencing stress on a weekly basis. By 1992, one-third reported experiencing great stress daily or several times a week, 20 percent higher from ten years earlier. Later still, in 1996, almost 75 percent reported experiencing great stress on a daily basis. (Greenberg, p. 280)

In the website of stressdirections.com, two recent studies confirmed a direct connection between stress and back pain. The first one is a longitudinal study conducted at the University College of London involved interviewing the colleagues of over 5,700 subjects who reported stress at age 23 and ten years later at age 33 concerned a variety of physical and mental complaints and illnesses. The result showed that the persons who reported stress at age 23 were 2.5 times more likely to report back pain at age 33 than those who did not report stress at age 23. Another study made at Ohio State University demonstrated that stress could change the way people use their back muscles. The activity of electromyography (EMG) of the persons' back muscles (EMG) was monitored while they lifted 40-pound boxes repeatedly under high stress and low stress conditions. Under low stress conditions, the recipients reported no back pain, and the pattern of EMG activity indicated no

spinal strain; however, under high stress conditions, the recipients did complain of back pain and exhibited an EMG pattern consistent with spinal strain.

Another study in Europe found that job stress became a major problem. When the European Foundation for the Improvement of Living and Working Conditions conducted its Second European Survey, they found that one in four working people feel stressed by job, one in five is fatigues, and one in eight suffered from headaches. The survey also found that job stress is different in many countries. For example, about 50 percent of Dutch workers reported a high work pace. In England, about 67 percent of workers reported that stress was the most serious problem in their working lives (Greenberg, 2006, p.282).

Smith, Smoll, and Ptacek assume from his studies (Greenberg, 2006, p.52) that stress is a part cause of accidents for athletes who have less social support and do not know much about psychological coping skills. Consequently, they experience more sports injuries.

Karasek et al., (1979) studied job stress and have found the most stressful jobs are those with a heavy workload but allow for very little decision making. The most stressful jobs are electrical assembler, forger, cashier, electrical laborer and cook whereas architect, dentist, forester, therapist and tool maker are least stressful.