

Chapter 2

Literature Review

2.1 Concept of Stress

Walter Cannon, Harvard physiologist looked at stress reaction using the “fight/flight response”. The chart below shows how stress in the early stages can ‘rev up’ the body and enhance performance in the workplace, thus the term ‘I perform better under pressure’. However, if this condition is allowed to go unchecked and the body is revved up further, then performance will ultimately decline and the persons health will degenerate as demonstrated in figure 2.1

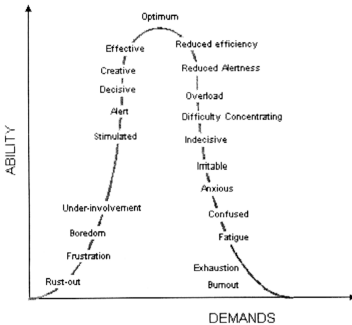


Figure 2.1 : Effects Of Stress On A Person's Health

The symptoms of stress are believed to stem from our primitive ‘fight or flight’ response to perceived dangers. This response produces surges of chemical reactions in the blood stream which can cause psychological problems such as Post Traumatic Stress Disorder or Cumulative Stress Disorder for example.

It is believed that man has retained much of his primitive hormonal and chemical defence mechanisms intact throughout the centuries which enabled the cave

man to either fight the perceived danger or to retreat, thus the phrase 'fight or flight'. Unfortunately, the lifestyle which we live in today does not allow us to react physically to the problems which we face. We are not for example able to punch our boss when he is acting aggressively as such actions are all forms of behaviour that are not tolerated in today's society. Similarly, in today's society we are not able to use the 'flight' response either. The consequences for manager who flees from a stressful meeting are likely to be sweeping. It is believed that it is this denial of our primitive responses which causes the strains on our body and leads to stress related disease and sickness, as the adrenaline which runs through our body and prepares us for our basic responses has no outlet.

Cannon treats stress using the "response" approach, looking at stress as a dependent variable. This "response" approach was popularised by Seyle who characterized stress as "the state manifested by a specific syndrome which consists of all non-specifically induced changes within a biologic system" (Seyle, 1956, p.54).

Seyle formulated a theoretical construct of stress based on the emergence of three stages i.e. alarm, resistance and exhaustion called General Adaptation Syndrome (GAS). A person's reaction follows a certain pattern, for at first the experience of stress is difficult, then one is used to it and finally one cannot stand it any more. First and second stage GAS is repeatedly experienced in the course of employment an individual. Prolonged and severe stress may lead to third stage which is exhaustion and death. According to Matteson and Ivancevich (1982) the two important variables for the breakdown are the duration and frequency the GAS is activated. The person can go into either fight or flight mode and the longer one stays in the mode the more likely he is going to experience a breakdown.

Albrecht claims that "the greatest enemy of human health is prolonged, unrelieved state of worry, anxiety and arousal that many people experience and

cannot escape" (Albrecht, 1979 p.64). Many workers experience continuous and unrelieved stress for a large part of their working day. The human body is equipped to handle episodic stress quite well but cannot handle chronic stress of the continuous low grade nature which employees experience in the work place.

In view of the different concept of stress, stress has not achieved any kind of closure, either in the area of its concept or the delineation of boundaries because different methodological approaches are used to treat stress. Stress can be seen as stimulus, a response or an interactive process. For the purpose of this study, response-based approach by Selye (1956) is used. With this approach, stress is seen as a body response in excess of normal or usual states to stressors and can be identified as symptom. This study cannot be used as the interactionist approach as it does not look at mediating process of stress for reasons explained in Section 1.6 under Limitation of Study.

2.2 Theoretical Models of Stress

2.2.1 Stress as the independent variable: - a 'stimulus' – based model of stress

Historically, this approach which links health and disease to certain conditions in the external environment can be traced back to Hippocrates, in about the fifth century, B.C. It was the belief of the Hippocratic physician that characteristics of health and disease are conditioned by the external environment (Goodell, Wolf and Rogers, 1986). The rationale of this approach is that some external force impinges on the organism in a disruptive way. The stimulus-based psychological model of stress has its roots in physics and engineering, the analogy being that stress can be defined as a force exerted, which results in a demand or load reaction that causes distortion. Stress is therefore regarded as a stimulus that

produces an opposing 'strain' in the individual in order to maintain its integrity. Thus, stress causes strain.

It is now realised that purely objective measures of environmental conditions are inadequate. Individual differences, variability in tolerance levels and expectations, account for the fact that two individuals exposed to exactly the same situation, might react in completely different ways. This is a major weakness of the model. In fact, Lazarus (1966) states that no objective criterion is good enough to describe a situation as stressful, only the person experiencing the event can do this. Although the model has limited use, it has some appeal in organisations seeking to identify common stressor themes or patterns that might affect the majority of the workforce.

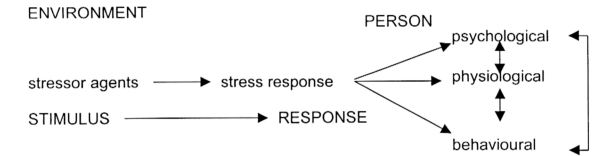
2.2.2 Stress as the dependent variable: - a 'response'- based model of stress

A response-based approach to stress, in seeking to define an intangible phenomenon, views it in terms of the dependent variable (i.e. a response to disturbing stimuli). John Locke, the seventeenth century physician and philosopher, proposed that intellectual functioning, emotion, muscle movement and the behaviour of internal organs are the products of sensory experience by the brain. In the 1930s, the psychoanalyst, Franz Alexander and Flanders Dunbar, a physician, reported on the relationship between personality patterns and constitutional tendencies to certain organic disorders e.g. the psychosomatic theory of disease (Warshaw, 1979).

However, it is the work of Hans Seyle in the 1930s and 1940s that really marks the beginning of a response-based approach to the study of stress as when he actively underwent his GAS research. Although the word stress usually has negative connotations, Seyle (1956) emphasises that stress reaction is not automatically bad, neither can it be avoided, because being alive is synonymous

with responding to stress. On a more positive note, he says that stress is necessary for motivation, growth, development and change. However, unwanted, unmanageable stressor situations are damaging, and hence, stress becomes distress. The identification of potential sources of stress is the central theme of the stimulus-based model of stress.

Figure 2.2 : A Response Based Model of Stress



Source: Seyle, 1974

2.2.3 The Interactive Model of Stress

This relatively new model describes a 'process' that incorporates both the response-based and stimulus-based models. Within the proposed framework, five major issues are considered.

i) Cognitive Appraisal

Stress is a subjective experience contingent upon perception of the situation, that is, stress is not simply out there in the environment' (Lazarus, 1966).

ii) Experience

The way a situation or event is perceived depends on familiarity with the situation, previous exposure, learning and training and actual ability. In relation to this is the concept of reinforcement, that is, past success or failure.

iii) **Demand**

Pressure or demand is the product of actual demand, perceived demand, perceived ability and actual ability. Needs, desires, and immediate arousal level all influence the way that a demand is perceived.

iv) **Interpersonal Influence**

A potential source of stress is not perceived in a social vacuum. The presence or absence of others, that is, background and situational factors, influence the subjective experience of stress, response and coping behaviour. This can have both positive and negative effects.

v) **A State of Stress**

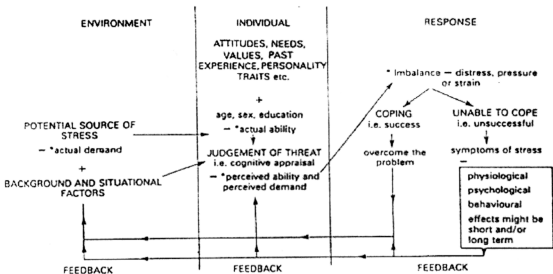
This is the imbalance between perceived demand and perceived ability to meet that demand. The process that follows are the coping process and the consequences of coping strategies applied. As McGrath (1976) suggests, stress must be perceived and interpreted by the individual.

Therefore, within the interactive model of stress, it is necessary to consider all three conceptual domains of the stress process:

- Source of stress;
- Mediators of the stress response; and
- The manifestation of stress

The development of interactive models of stress are indicative of the complexity of the concepts on stress research.

Figure 2.3 : Stress Perception : An Interactive Model



Stress perception: an interactive model.

Source: Coyne & Lazarus, 1980

Some organisations adopt a response-based model of stress that allows them to transfer responsibilities and view the problem of stress as inherent to the person. Thus, they introduce an intervention which aims to help employees cope with stressor situations but which does nothing to actually reduce or eliminate the origin of stress. Others may respond only to the stimulus – based model and attempt to make changes without taking account of the needs of individuals i.e. they only spend resources on the hardware of the organisation.

Stress has also been defined as processes of person – environment transaction, in which demands tax or exceed the resources of the person. Such stress is neither simply an environmental stimulus, nor a response, but a balance between demands and the power to deal with them without unreasonable or destructive consequences (Coyne & Lazarus, 1980). This model emphasises how the person appraises what is being experienced. The effects of the coping are in turn appraised and reacted to as part of the continuous flow of psychological, social and physiological processes and events (Coyne & Lazarus, 1980). Adjustment,

coping, satisfaction and stress are closely allied because disturbances in adjustment occur, i.e. when adjustive capacities are taxed beyond their scope and the demands both internal and external become excessive, then the individual's subjective state and behaviour are affected (Lazarus, 1956).

2.3 Job Stressor

Almost all factors in work environment have possibility to cause stress to some employee at some time. Different environment creates different job stressors. Many organisational activities which intentionally or unintentionally change the work situation have the power to increase or alleviate stress. Therefore the accurate identification of prevailing job stressor in a particular job minimises ill effects of stress. Different stressors also require different treatments.

Cooper and Marshall (1978) offer five clusters of job stressors namely factors intrinsic to the job, one's role in the organisation, career development, relationship with others and organisational structure and climate.

Ivancevich and Mattheson (1980) divided it into 4 categories: physical environment, individual level (a mix of role and career development variables), group level (primarily relationship based) and organisational level (a mixture of climate, structure, job design and task characteristics).

Schuler (1982) identifies seven work stressors in an organisation: job qualities, relationships, organisational structure, physical qualities, career development, change and role in organisation. Cooper and Marshall (1978) and Ivancevich and Matteson include extra organisational stressors as well.

Burke (1988) noted that there is considerable overlap among these researches both in term of categories they provide as well as specific stressors within each

category. In this study, six major categories of stressors (mainly after Cooper and Marshall, 1975) are examined. These are discussed below.

2.3.1 Factor Intrinsic to the Job Characteristics

Stress because of too much work, too little work, time pressure and deadline, making too many decisions, fatigue from physical strains of work environment, excessive travel, long working hours, having to cope with changes at work and the consequences of making of monetary and career mistakes.

i Working Condition

Poor mental health has been found to be directly related to unpleasant working conditions, the necessity to work fast and to expend a lot of physical effort and to be excessive and inconvenient hours (Kornhauser, 1965). They are increasing evidence that physical health is adversely affected by repetitive work and dehumanising environment such as paced assembly line (Marcson 1970; Shepard 1971).

ii Work Overload

Work overload is a potential source of accumulated stress that adversely affect both health and job statistics. It can be quantitative or qualitative (French & Caplan, 1973). Quantitative overload refers to "too much work to do" whereas qualitative overload refers to "work is too difficult". Work overload is associated with certain behavioural malfunctions (Cooper & Marshall 1975; Margolis, Kroes & Quin 1974; Cooper & Marshall, 1978; Cooper & Davidson, 1987) such as lowered self esteem, low work motivation, work absenteeism and escapist drinking. Work overload is associated with dysfunctional worker and organisation outcomes (Kahn, Wolfe & Snoek, 1964).

According to Yerkes-Dodson Law, response of a person to high pressure shows a steady improvement of performance and health up to a peak after

which both performance and health becomes worse at first slowly and then drastically (Melhuish, 1981)

French, Caplan and Harrison (1982) suggest both qualitative and quantitative overload can produce at least nine symptoms of psychological and physical strain, such as job dissatisfaction, job tension, lower self-esteem, threat, embarrassment, high cholesterol level, increased heart rate, skin irritations and increased smoking. Feeling overloaded is associated with higher cholesterol level. Quantitative overload is related primarily to coronary heart disease while qualitative overload is associated with mental health consequences such as low self-esteem (Kasl, 1978). However, work overload should not be viewed in isolation but related to the individual capacities and personalities. (Cooper & Marshall, 1978).

iii. Time Pressure and Deadlines

Time pressure can cause an individual's heart to beat faster and blood to pump and even to perspire and flush (Matteson & Ivancevich, 1982). Time pressure elicits a stress response called "time stress" (Albrecht, 1979) which is an anxiety reaction to feeling that something must be done before deadline and that time is running out and something terrible will happen when it doesn't. Studies show that stress level increase as critical deadline draw near. (Friedman, Rosenman & Carrol, 1958).

iv. Long Working Hours

Long working hours can take a toll on an employees' health. The individual spends long hours at work resulting in having less time for social relationship thus reducing the benefits of social support which can act as a buffer in the stress-strain relationship (Caplan et al, 1975). Yet, there are individuals who regard work and working hours as a psychological haven and a means of escape from pressure at home and family or unsatisfactory personal relationship (Sutherland & Cooper, 1988).

v. New Technology

The need to constantly be familiar with new technology, equipment, systems, management change and way of work may pose a threat. These skills may become obsolete in a rapidly changing environment, advancement and higher expectations of performance, unless constant and adequate training is provided. Stressful situation may develop when individuals are unable to keep up with escalating standard of performance and rapid technological changes.

2.3.2 Organisational Structure and Climate

Another potential source of job stress is "being in the organisation" which poses a threat to individual freedom, customary and identity. Aspect of organisational structure and climate that are potentially stressful to employee are lack of participation in decision making process, inadequate and ineffective consultation, poor communication, office politics and company policies that are restrictive.

French and Caplan (1973) says that employee with greater opportunity for participation in decision making reported greater job satisfaction, low job-related threat and higher self esteem. On the other hand, non participation at work was found to be a significant predictor of job related stress and strain, including overall physical health, escapist drinking, depressed moods, low self esteem, low life satisfaction, low job balance, low motivation to work, stronger intention to leave the job and more absenteeism from work [(Buck (1972); Margolis, Kroes & Quin (1974); Kasl (1973)]. Quinn, Seashore and Mangiore (1971) found that poor mental health was linked to close supervision and lack of autonomy at work.

Rosli Hassan (1996) did a case study on office environment and job stress among employee in National Registration Office (Jabatan Pendaftaran Negara). He found that overcrowding and noise are among the factors which contribute to stress among employee.

2.3.3 Responsibilities and Standards in Organisation

Cooper and Davidson (1987) found that a person's role or work has been determined as a main source of occupational stress and can result in stress related diseases such as coronary heart disease.

i. Role Ambiguity

Role ambiguity exists when an individual has inadequate information about his work role. There is lack of clarity about the work's objectives, scopes and responsibilities and about colleagues' expectations of work role.

Employee who has role ambiguity experiences low job satisfaction, increased job-related tension, great futility and low self-confidence. In a study carried out on 205 volunteer engineers, scientist and administrators, French and Caplan (1973) found role ambiguity significantly related to low job satisfaction, to feeling of job related threat to one's mental and physical well being and to physiological strain such as higher blood pressure and pulse rate.

Kahn et al (1964) say that some of the sources of the ambiguity are complexity of modern organisation and rate of organisational change. Powell and Enright (1993) claim that confusion, frustration, helplessness and stress occur when there is lack of feedback. In conclusion role ambiguity is inherent in large and complex organisation. As role ambiguity is directly unhealthy for individual and indirectly unhealthy for organisation it merits central attention of the modern organisation in order for progress and success to take place without sacrificing its human component.

ii. **Role Conflict**

Role conflict exists when an employee is confronted by conflicting job demand or doing things that he really does not want to do or does not think as part of his job specification (Cooper & Marshall, 1978). A frequent demonstration of this is when an employee is caught between two group of people who demand different kind of behaviour or expect that the particular job entails different functions.

The greater the authority of supervisor "sending" conflicting message, the more role conflict resulting in job dissatisfaction.

Kahn, Wolfe , Quinn and Snoek found 4 types of role conflict:

- Intrasender conflict are experienced when orders given are in conflict with each other (Yates, 1979)
- Intersender role conflict is when employee reports to one manager functionally but at the same time is assigned to one/more other persons (Yates, 1979) or when there are pressures from one role sender to opposing pressure from other role senders (Kahn, Wolfe , Quinn and Snoek, 1964)
- Interrole conflict occurs when different roles of worker are in conflict (Yates, 1979) or when "the role pressures associated with membership in one organisation are in conflict with pressures stemming from membership in other groups" (Kahn, Wolfe , Quinn and Snoek, 1964)
- Person-role conflict is when roles the organisation expects the person to conform to are at odds with his basic personal value.

Research by Mettlin and Woelfel (Cooper, 1981) determined the following three aspect of interpersonal influence : discrepancy between influencers, level of influncer and the number of influence. They found that the wide and diverse the individual's interpersonal communication network, the more stress symptoms will be shown.

An employee holding an organisational role at the boundary such as that between department or between the organisation and the outside face a higher role conflict (Cooper, 1981). Researchers by Kahn et. al (1964) and by Margolis and Kroes in 1974 (Cooper, 1981) have confirmed that such position are usually highly stressful.

iii. Work Responsibilities

Alan McLean says any responsibility in general can lead to greater stress (Vecchio, 1991).

Responsibility is another important potential stressor. It can be further sub-divided into responsibility for people and into responsibility for things. French and Caplan found that it is more stressful to be responsible for people than things (Yates, 1979) and that responsibility for people was significantly related to heavy smoking, diastolic blood pressure and high cholesterol level. The more responsibility he has for people the more risk for coronary heart disease (Cooper, 1981).

iv. Other Stressor

Other potential stressors include having too little responsibility, lack of participation in decision making and lack of managerial support.

2.3.4 Rewards

Stressor related to career development include effect of over promotion, under promotion, status incongruity, lack of job security and thwarted ambition (Cooper & Davidson, 1987).

Under utilisation of capacity of worker by not putting them in the right post that use their capabilities to optimum causes stress in employees. Under promotion is associated with job resignation, job dissatisfaction and psychosomatic

complaints of depression, anxiety, frustrations and headaches (Matteson & Ivancevich 1982).

An employee who is several managerial position lower than his expectation is likely to experience a greater deal of stress as a result of disappointment. A study of American Navy personnel found that personnel whose rate of advancement is more than their expectation experience greater job satisfaction. Dissatisfaction increases as advancement slows down and those who were least successful in advancement perceived the greater amount of stress (Yates, 1979).

Status congruity is the degree to which there is job advancement including promotion to the next higher position or in the words of Marshall (1979) "the matching of one individual's advancement with his experience and ability". Arthur & Anderson (Marshall 1979) found promotional lag to be significantly related to psychiatric illness.

Job insecurity puts worker under stress (Yates,1979). This is when fear of redundancy, obsolescence or early retirement manifests. Although in a redundancy exercise an employee is expected to work harder as to be among the last to be laid off, studies found that they spend more time in coffee breaks and at the water cooler discussing the next victim to be laid off (Yates, 1979).

2.3.5 Support and Warmth At Work

A further source of stress at work is with the nature of an individual's relationship with his superior, subordinate and colleagues. Poor relationship have been defined as those which includes low trust and low interest in listening to and solving problems that confront other organisational member (French & Caplan, 1973).

Group cohesiveness, group support and normal pressures can cause eustress or distress in a work environment. Group cohesiveness can be a source of relief from stressful policies, changes and leader behaviour (Matteson & Ivancevich, 1982). Meanwhile a worker in a non-cohesive group cannot rely on the group to reduce or cope with stress. Difficult relationship can result in symptoms associated with extreme stress such as diarrhoea, pain in the neck or lower back, anxiety and insomnia (Yates, 1979). Buck (Cooper 1981) found that the attitude and relationship of the superior with their worker are important. When the superior was perceived as considerate by workers, there exist friendliness, mutual trust, respect and a certain warmth between superior and subordinate. However, when employee reported their superior less considerate, they felt more job stress.

Stress among co-workers can occur from the need to compete and at the same time co-operate. Stress can be caused not only by the pressure of relationship (e.g. office politics and colleague rivalry) but also by the lack of adequate social supporting difficult situation (Lazarus, 1966). Study by Caplan (Cooper and Davidson, 1987) shows a high degree of peer social support can relieve job stress.

2.3.6 Extra Organisational Sources of Stress

Others factors contributing to stress are family problem, life crisis, financial difficulties, conflict between personal belief and those of the organisation and conflicting family demand. Employees have two main problem in respect to family life:

- Time management and commitment management. His busy work life leaves him with few resources to cope with needs of his family and in order to do his job well, this employee needs support from others to manage details of home management etc. to relieve stress and maintain control with the world outside

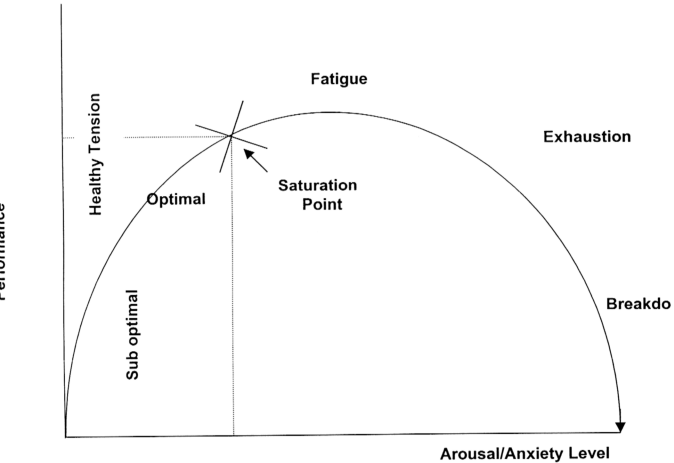
- result of the first is the spill over crises affecting the others in the family.

McLean (1980) said a supportive family could help to boost an individual's feeling of self esteem and was less likely to create inter personal pressure.

2.4 The Effects of Stress on Performance

Too little stress may be harmful as too much stress, especially if you want to get a task done. Stress researchers have long recognised that some stress or stimulation is needed for optimum performance. Although the relationship between stress and performance varies from person to person, the general pattern can be expressed in the curves shown:

Figure 2.4 : Relationship Between Stress And Performance



Source: Seyle, 1974

Performance rises as stress increases, and boredom and frustration diminish. Once an optimum point is passed, however, increasing stress impairs judgement and alertness, and performance falls off. This may also result in behavioral symptoms including changes in productivity, absence at work as well as changes in eating habits, increased smoking or alcohol consumption, rapid speech, fidgeting and sleep disorders (Robbins, 1998). Others may resort to taking drug not prescribed by doctors or in higher dosage.

2.5 Coping Mechanisms

Many symptoms of illness develop as an attempt by the individual to defend himself against the feeling of anxiety. It is therefore important to be familiar with coping mechanisms people use when experiencing the various level of anxiety.

The mild level of anxiety caused by tension of day-to-day living. The individual becomes alert and he sees, hears and grasp more than previously. This anxiety motivates learning, growth and creativity.

The moderate level of anxiety is when the individual sees only the immediate thing concerning him. His perception is narrowed and he can only see other things if being guided to do so.

The severe level of anxiety is when the individual's perception field is greatly reduced. His mind focuses only on specific thing and he sees nothing else. His behaviour is aimed at relieving the anxiety.

Panic level of anxiety is when his perception to small problem is blown out of proportion and he feels awe, dread and terror. His personality is disorganised and he no longer can function and control his behaviour. If this state was prolonged, he would go into exhaustion and death.

Besides having the above level of anxiety, the coping mechanisms can be categorised as follows:

i. Task-oriented Reactions

These are conscious direct action aimed at modifying, changing or removing the stress situation. These action can be; Attack, Flight and Withdrawn and/or Compromise/Substitution

- **Attack Behaviour** - The individual attempts to remove or overcome obstacle by using excessive energy through destructive or constructive actions. Destructive pattern is usually accompanied by feeling of anger

and hostility. Constructive patterns reflect an approach whereby the individual puts in extra effort to solve his problems or shows self-assertive behaviour.

- **Flight and Withdrawn** - Running away or keeping away socially is observed when aggressive behaviour is not possible, or aggression does not eliminate the source of stress. For example, an executive who fails to do his work correctly a number of times and was reprimanded by his superior, may consider leaving the profession altogether.
- **Compromise/substitution** – When stress situations are not overcome by aggression or flight then withdraw, compromise and substitution are often employed. For example, the same executive who fails in doing her work correctly may decide to attend short courses or training sessions to improve her skills.

ii. Ego-oriented Reactions / Mental Mechanisms

It is man's unconscious attempt to obtain relief from emotional distress. They operate and occur in everyday life particularly in situations that elicit threatening or painful feelings. They are used as follows: -

1. To resolve mental conflict
2. To reduce anxiety or fear
3. To protect one's self-esteem
4. To protect one's sense of security.

2.6 Managing Stress

There are many effective, scientifically proven methods in managing workplace stress from the psychological literature as well as practice. Psychologists are well trained in teaching individuals to manage stress by using:

- relaxation techniques (e.g. progressive muscle relaxation, meditation, imagery, hypnosis)
- cognitive techniques (e.g. refuting irrational thoughts and beliefs)
- behavioural techniques (e.g. teaching new behaviours)

- general lifestyle management (e.g. diet, exercise)

The purpose of these programs is to educate people about the nature of stress, its impact on the self and others in personal and work settings, and training in how to effectively manage it.

Stress management programs often incorporate other skill training such as assertiveness training. Assertiveness training is particularly useful for those persons whose stress originates from the inability to say 'no' to other people's demands and when there is incapability to undertake those demands for whatever reasons. Time management and conflict resolution skills also are popularly included in stress management programmes.

Companies today are increasingly aware of the possible detrimental effects of stress on an employee's physical and mental well being. More importantly, they are well aware of the impact stress has on the organisation's productivity, costs, and losses. There are options in which an organisation can address the impact of job stress on employees. Some companies hold two to three day education and training programmes for all employees and managers. Alternatively, such programmes can be held during the lunch-break for a few weeks until the module is finished. Such programs should be run by trained and qualified professionals, and companies are increasingly seeking the services of specialist consultants who attend the worksite and conduct the programmes.