CHAPTER II

REVIEW OF LITERATURE
The direction of research can be decided by studying the research material or literature. One gets important guidance as to which projects to include in the research and what types of variables to apply while undertaking research. Further, knowledge can be achieved by looking at the studies undertaken earlier.

As per scientific rule, a research is undertaken to gain more novel information than principles achieved by earlier researcher or to review such principles. It is essential to look at earlier studies to identify the ignored variables and to avoid the repetitions.

The aim of the present chapter is to observe the studies undertaken in the past about the causes of stress, its impact and coping strategies across various professions, cultures and demographics. In this regard several important studies have been mentioned in this chapter.
2.1 DEFINITION OF OCCUPATIONAL STRESS

The starting point in this chapter should be to provide a clear, coherent and precise definition of occupational stress. Unfortunately, this is not straightforward. Despite the key words ‘occupational stress,’ ‘work stress,’ and ‘job stress’ being used in various scientific articles published so far, the scientific community has still not reached an agreed position on the meaning and definition of occupational stress. There has been considerable debate, for example, about whether occupational stress should be defined in terms of the person, the environment, or both (Cooper, 1984). This lack of coherence has led to a degree of fragmentation in the occupational stress literature, and may explain, in part, why research articles related to occupational stress were published in the leading applied psychology and health journals.

2.1.1 Definitions of Stress

Before defining the occupational stress, it is mandatory to define stress. The various popular definitions of stress that has been gathered from different research articles are discussed as follows:

“A dynamic activity wherein an individual is confronted with an opportunity, constraint or demand”

- Selye (1936)

Stress as the state in which an individual’s well-being is perceived to be endangered and they think it necessary to divert all their energies to protect themselves.

- Coffer and Appley (1964)

Stress is conditioned feeling experienced when a person perceives that demand exceeds the personal and social resources the individual is able to mobilize.

In simple words, “Stress is a pressure or demand on the system where available resources are not adequate to cope with.”

Over the years, the term stress has been used in different ways by different theorists. Some have viewed “Stress as a stimulus event that presents difficult demand, while others have viewed stress as the response of physiological arousal elicited by troublesome events” (Whitehead, 1994). However the emerging consensus among contemporary researchers is that “Stress is neither a stimulus nor a response but a special stimulus response transaction in which one feels threatened.” (Mc Ewan, 2000). It means stress as any circumstances that threatened or are perceived to threaten one’s well-being and thereby tax one’s coping abilities.

2.1.2 Definitions of Occupational Stress

Occupational stress has become a common problem throughout the industrial world. Over the years its prevalence has increased, thus affecting the individual's mental health and well-being. Occupational stress poses a threat to physical health. Work related stress in the life of organized workers, consequently, affects the health of organizations.

Occupational stress is stress involving work. According to the current World Health Organization's (WHO) definition, occupational or work-related stress "is the response people may have when presented with work demands and pressures that are not matched to their knowledge and abilities and which challenge their ability to cope.

Occupational stress can be defined as the harmful physical and emotional responses that occur when the requirements of the job do not match the capabilities, resources, or needs of the worker.

According to United States National Institute of Occupational Safety and Health (Hiralal, 2013), Job stress can be defined as “the harmful physical and
emotional responses that occur when the requirements of the job do not match the capabilities, resources, or needs of the worker. Job stress can lead to poor health and even injury. It simply means that workplace stress generally arises when there is a mismatch between the nature or magnitude of the job to be done and the employee desires and capabilities. Further, the definition also categorizes workplace stress into physical stress and psychological or emotional stress.

According to a discussion document presented by United Kingdom Health and Safety Commission, London, “Stress is the reaction of people who show excessive pressures or other types of demand placed on them. On the basis of experience and research, NIOSH favors the view that working conditions play a primary role in causing Occupational stress. However, the role of individual factors is not ignored. According to the NIOSH view, exposure to stressful working conditions (called Occupational stressors) can have a direct influence on worker safety and health.

A fundamental premise of occupational stress models is that elements of the objective work environment are evaluated by employees through an appraisal process, which then results in a physiological, psychological, or behavioral response (Jex, 1998). As Cox (2002) asserts, job strain does not necessarily result from the source of the pressure but rather from the employee’s perception of the pressure. This suggests that the same event (e.g., amount of work) may be perceived as highly stressful by some and not stressful by others.

2.2 MODELS OF STRESS

This section gives an overview of many of the major theoretical models that depict the stress process, with particular attention paid to the most influential. It is proposed that the current stress models presented yield fruitful frameworks for the current stress research, though many of the existing models suffer from
being either too narrow in scope and lacking a role for individual differences, or too broad and complex, and lacking in predictive validity.

Cox and Griffiths (1995) stated that, there are really only three different types of conceptions in the nature of stress. First is the “engineering” approach, where stress is seen as a stimulus or characteristic of the environment in the form of level of demand. Second is the physiological approach, where the definition of stress is based upon the physiological or biological changes that occur in the person when they are in a stress state, e.g. as a dependent variable based on neuroendocrine activation. The third view is termed the psychological approach by Cox and Griffiths (1995) where stress is not conceived of as a mere stimulus or response, but is itself the dynamic process that occurs as an individual interacts with their environment.

The psychological viewpoint is perhaps the most popular conceptualisation today and is considered superior by Cox and Griffiths (1995) as the engineering and physiological approaches treat people as passive vehicles for stimulus and response, and cannot account for the effects of cognitive or situational factors on performance and well-being.

There are many different models of workplace stress which are important in guiding research and practice, and these vary in popularity and empirical support. A selection of key frameworks will be outlined below, including influential models from the past and present, as well as some of the more up-to-date frameworks.

(i) **General Adaptation Syndrome (GAS) Model**

In 1936, Hans Selye created the stress model "General Adaptation Syndrome", which thoroughly explains the stress response and how aging and disease are caused by chronic exposure to stress.
In his studies, Selye noticed that the body has been adapting to external stressors in terms of a biological pattern that is actually predictable, so that the internal balance, or homeostasis, would be restored and maintained.

In its attempt to retain homeostasis, the body makes use of its hormonal system, also known as the fight or flight response. With this response, you would notice how the body wants things to be resolved fast and easy, that’s why it already resorts to releasing hormones that would enable you to combat stress in the most immediate way possible. This struggle of the body against stress is the main theme of the General Adaptation Syndrome.

Another observation that Selye discovered was that even if one’s body wants to control or reduce the stress, it still has its limits. The limited supply of body’s energy to adapt to the stressful environment is even more compromised when the body is exposed to the stressor continuously.

**Three Phases of Stress Response**
The General Adaptation Syndrome is a model that is comprised of three elements or phases which describe the body’s response to stress:

1. **Alarm Stage**
   In this phase, the initial reaction of the body to stress is that it labels the stressor as a threat or danger to balance that is why it immediately activates its fight or flight response system, and releases the “stress” hormones such as adrenaline, noradrenaline and cortisol. These hormones enable you to perform activities that you don’t usually do.

   For instance, when one’s house is on fire, his body shifts to the alarm stage, his stress hormones released (particularly adrenaline) and then he
lifts a very heavy appliance outside the burning house. But there’s a catch – your blood pressure starts to rise after a minute or less, which can predispose you to damage of the brain and heart’s blood vessels, putting you at risk to stroke or heart attack. The muscles you’ve utilized might also become painful due to tissue damage.

2. Resistance Stage
After the body has responded to the stressor, it is more likely that the stress level has been eradicated, or simply reduced. What happens next to the fight or flight response is that your body’s defences become weaker, as it needs to allocate energy to the repair of damaged muscle tissues and lower the production of the stress hormones.

Although the body has shifted to this second phase of stress response, it remains on-guard, particularly when the stressors persist and the body is required to fight them continuously, although not as stronger as it could during the initial response.

3. Exhaustion Stage
During this phase, the stress has been persistent for a longer period. The body starts to lose its ability to combat the stressors and reduce their harmful impact because the adaptive energy is all drained out. The exhaustion stage can be referred to as the gate towards burnout or stress overload, which can lead to health problems if not resolved immediately.

All in all, the General Adaptation Syndrome model by Hans Selye presents a clear biological explanation of how the body responds and adapts to stress.

This model emphasis on the fact that, Stress is necessary for biological adaptation and the different stages of the Stress response, which implies
in understanding the immediate, short term and long term effects of stress. The ways of managing these situations could be by preventing distress and promoting eustress by taking each event as a challenge and not a threat, and controlling stress effects so that the stage of exhaustion is not reached.

(ii) **Stress and wellbeing at work: Person-Environment Fit**
Lewin (1951) observed that an individual’s personal characteristics interacted with their work environment to determine strain, and consequent behaviour and health. This concept was developed into the Person-Environment fit model (French, 1973), which suggests that the match between a person and their work environment is key in influencing their health. For healthy conditions, it is necessary that employees’ attitudes, skills, abilities and resources match the demands of their job, and that work environments should meet workers’ needs, knowledge, and skills potential. Lack of fit in either of these domains can cause problems, and the greater the gap or misfit (either subjective or objective) between the person and their environment, the greater the strain as demands exceed abilities, and need exceeds supply. These strains can relate to health related issues, lower productivity, and other work problems (French, Caplan & Harrison, 1982). Defence mechanisms, such as denial, reappraisal of needs, and coping, also operate in the model, to try and reduce subjective misfit.

Person – Environment (P-E) Fit model advocated by French, Rodgers and Cobb (1974) deals with how the characteristics of the person and those of the environment affect the wellbeing of the person. The salient features are as follows:

(i) **Needs – Supplies Fit and Abilities – Demands Fit.** The first refers to the degree of commensuration between the needs of the person and the supplies provided by the environment to fulfil those needs. For
instance, the number of achievement–oriented opportunities provided by the environment to fulfil one’s need for achievement. The second type of fit refers to that between demands of the environment and the ability of the person to meet those demands. P-E fit refers to both amount of fit between what the person expects from the environment and the extent to which the environment can meet those needs; and the requirements demanded by the environment and the degree to which the person is able to cope with those demands. Both kinds of misfits may act as stressors.

(ii) **Objective Fit Vs Subjective Fit.** The theory proposes the distinction between Objective fit and Subjective fit. The former includes the measures of the P and the E free of bias introduced by the person, while the later includes this bias. This leads to an objective P and an objective E as well as to a subjective P and to a subjective E. Correspondence between the objective and the subjective P is called the accuracy of self-assessment. Correspondence between the objective and the subjective E denotes contact with reality. Cognitive distortions produce discrepancies between the objective and subjective components of fit. It is this subjective fit which caused strain leading to illness. A similar analysis is provided by Stokol (1979) using the three concepts of magnitude, duration and rate of change of environmental demand. Various types of P-E fit relationships are hypothesised, including the V-Shape relationships (where minimum strain is seen when P=E, asymptotic relationship (in which as excess of P, but not a deficit, or an excess of E can lead to strain), and the linear relationships (where in the absolute amount of P in relation to E has a linear effect on strain). A strong point of the theory is that the measurement methodology for the P – E fit is provided. By using commensurate for both P and E, a fairly reliable
measure can be obtained; however, problems of framing the items, the placement and scale contamination still plague the researcher.

(iii) **The Job Characteristics Model**
Hackman and Oldham’s (1980) job characteristics model focuses on important aspects of job characteristics, such as skill variety, task identity, task significance, autonomy, and feedback. These characteristics are proposed to lead to ‘critical psychological states’ of experienced meaningfulness, and experienced responsibility and knowledge of outcomes. It is proposed that positive or negative work characteristics give rise to mental states which lead to corresponding cognitive and behavioural outcomes, e.g. motivation, satisfaction, absenteeism, etc. In conjunction with the model, Hackman and Oldham (1980) developed the Job Diagnostic Survey, a questionnaire for job analysis, which implies key types of job-redesign including combining tasks, creating feedback methods, job enrichment, etc. The model is also well integrated with the Job Diagnostic Survey, however there is limited variety in the core job characteristics, with only a small number of key psychological states are considered.

(iv) **The Vitamin Model**
The Vitamin Model (Warr, 1990) proposes that certain job characteristics have an effect on mental health that is analogous to the way that vitamins work in the human body. Simply put, some job characteristics have “constant effects” where health increases linearly with increasing “dose” up to a threshold, after which increased dose has no positive or negative effect, and these may include salary, safety, and task significance. Alternately, some have a curvilinear or “additional decrement” effect, where moderate levels are the most beneficial, but too much or too little can have negative health effects, for example job
demands, autonomy, social support, skill utilisation, skill variety, and task feedback (Van Veldhoven et al., 2002). Affective well-being is expressed in the model on three dimensions of discontent-content, anxious-comfortable, and depressed-pleased and individual characteristics can moderate the effect of job characteristics on health.

The Michigan Model

The Michigan Model is based on a framework established by French and Kahn at the University of Michigan in 1962, and is sometimes known as the ISR model (Institute of Social Research) the Social Environment Model, or the Role Stress Approach. Like the P-E fit model (French et al., 1982) the Michigan Model (Caplan et al., 1975) also places much emphasis on the individual’s own subjective perceptions of stressors. Environmental stressors, such as role ambiguity, conflict, lack of participation, job security, workload, lack of challenge etc., are subjectively perceived, and personality variables, demographics, and social support moderate these perceptions to lead to health outcomes (Kompier, 2003). Role issues, such as role conflict, role ambiguity, and role expectations are particularly central stressors, hence why it is sometimes known as the Role Stress Approach (Kompier, 2003). The model was refined by Hurrell and McLaney (1988) from the U.S. National Institute of Occupational Safety and Health to result in what is known as the NIOSH model, which as well as specifying examples of how stressors, individual differences, acute reactions, and illness outcomes occur, also focuses more on the role of objective workplace factors in the aetiology of work stress (Huang, Feurstein, & Sauter, 2002).

Buunk et al. (1991) state that this entire model does not have a clear theoretical perspective that easily leads to specific hypotheses and the model is hard to empirically evaluate due to its complexity. Mixed
support was found for aspects of a simplified Michigan Model in regards to the relationship between managerial support and job satisfaction by Jones, Smith, and Johnston (2005), however a general lack of empirical support means it does not have much predictive validity for health outcomes, unlike other models such as the well-known Demand-Control model (Karasek, 1979).

**Demand Control Support Model**

The Demands-Control model (Karasek 1979) is currently perhaps the most influential model of stress in the workplace (Kompier, 2003) and the original model focuses on the two psychosocial job characteristics of job demands and job control. The latter factor is sometimes called decision latitude (Karasek, 1979) and is made up of the sub-factors of decision authority (control over work situation) and skill discretion (possibility of using learnt skills and competencies). Cox and Griffiths (1995) call the demand-control model an “interactional” model, as it focuses on the structural features of an individual’s interactions with their environment (as opposed to the process of what is occurring in this interaction).

Karasek’s (1979) research showed that those exposed to high levels of demand, as well as having low levels of job control (high-strain situation) were disproportionately more likely to show increased levels of depression, fatigue, and cardiovascular disease and mortality. However, the lowest levels of illness were in individuals with moderate or even high demands, if they also had high levels of job control (challenge situation). Karasek (1979) thus proposed an interaction where high demands and low control would predict high strain, but that high control would buffer the negative effect of demands on outcomes. The model was expanded (Johnson & Hall, 1988) to include social support
(DCS) as evidence suggested that support may act as a buffer in high demand situations.

There is significant evidence in a variety of populations associating health outcomes with control, demands, and support (Van der Doef and Maes, 1999). However, there is mixed support for the interactive effects of demands and controls, with some claiming these effects to be largely additive (Warr, 1990).

Despite the later inclusion of social support, the model is limited in the number of job characteristics it considers, which may not reflect the dynamic multi-stressor nature of modern workplaces. While the model has good predictive validity at the macro level, it does not take account of individual differences in susceptibility to stressors, and can’t explain why the same levels of demand and control in two individuals may give rise to different behavioural or health outcomes (Perrewe and Zellars, 1999). This issue may be related to the “oversimplification assumption” (Payne, Jick & Burke, 1982) which can arise from too great a focus on environmental demands, and is the notion that the presence of an environmental demand is an indication that the event is demanding, when in some cases for some individuals it is not.

Other criticisms of the DCS model include its definition of demand as based primarily on workload and no other types of demand (Cox et al. 2000) and that the conceptualisation of control is quite a narrow view of this multi-dimensional construct (Carayon, 1993). The DCS model also assumes that high control is always a desirable state (and a positive moderator of negative demands) however it could be argued that some individuals may not see job control as desirable, and may find having control a stressor in itself, for example if they have a low sense of self efficacy. The implications for job redesign are that healthy jobs ought to
have high levels of control without extreme levels of demand, and with wide networks of social support. The DCS is a popular and influential model of workplace stress with good predictive validity, however it is limited in encapsulating the complexities of the stress process, and could perhaps be most useful when used in conjunction with other models, particularly those that may include individual difference components.

**(vii) Overload-Under load Model**

The model coined by Suedfeld (1979), it links stress no to the quality of environmental experiences, but also to the structure of experiences, thus, some events may be extremely aversive but may not involve stimulation levels outside the optimal zone. Conversely, events may be positive in nature, but their very bulk makes the m stressful. In other words, too much of a good thing may be stressful. A U-shaped relationship is hypothesised between stimulus load and stress, with stress being caused by both stimulus under load and overload. Too much of a good thing can also produce stress. As for instance, stimulus overloads. Stimulus overload may take many forms. It can either be quantitative or qualitative. A pervasive form of stimulus overload is the information explosion due to the easy availability of the electronic and print media. Mental or physical work overload results whenever there is a time crunch and one tries to beat deadlines. Overload could also occur in other ways when a child has too much to learn in too short a time, each time the boss issues long instructions to the subordinates, without waiting to find out if it has registered, and when one tries to digest large volumes of data for the next meeting. Suedfeld has identified several factors considered important for the determination of the optimal level of stimulus load. While physiological arousal is crucial, personality variables such as locus of control, cognitive complexity and extraversion-introversion play an important role in the evaluation of the
level of stimulation considered optimal by the person. Other determinants are age and educational level.

**(viii) Optimal Information Flow and Mood Model**

Proposed by Hamilton (1981), it is along the same line as stimulus overload/under-load model. It posits the same type of ‘U’ – shaped relationship between stress and stimulation. An additional aspect in Hamilton’s model is the proposed relationship between optimal information flow and mood. Positive are an outcome of optimal information: negative moods (anxiety at the high end and boredom at the low end), reflects a mismatch between what is considered as the optimal level and the actually available stimulation. Negative moods will impact behaviour negatively.

However, human beings are not totally in the hands of environmental stimulation. The susceptibility to such negative loads is monitored by what are called Attention Regulators (ARs). These ARs act to either argument or reduce the information available. The important point is that they are cognitive mechanisms and are under the voluntary control of the individual. It is therefore clear that if one is bored, in fact bored to death, one should use one’s ARs to self-regulate one’s experiences. For instance, one can find challenge in one’s job; look around one will find many jobs which demand ones attention. Boredom is as much due to one’s own frame of mind as it is to environmental conditions. One always has the ‘take it’ or ‘leave it’ option. However, it should be remembered that while boredom or its other extreme, information overload can be aversive and stressful; there is a middle level which is just right for a person. Each one has their own optimal level.


(ix) Cognitive Appraisal Model

The cognitive model of stress is proposed by Lazarus and Folkman (1984), who defined stress as ‘a particular relationship between the person and the environment i.e., appraised by the person as taxing or exceeding his or her resources and endangering his or her wellbeing’. On the basis of both laboratory and field studies, Lazarus and Folkman have evolved model of stress, incorporating three major issues;

(i) The conditions that determine the perception of any event, that is, the process of Primary Appraisal. Considering the stress the may have the positive or negative effects, the authors have classified the event perception as being either irrelevant or having no implications for the person’s well-being; being positive, if it preserves the person’s wellbeing; and stressful. The last may lead to harm or loss, threat or challenge. These conditions may stem from the person or form the situation. Thus, an event which goes against the person’s commitments is more likely to be perceived as being stressful than one which has no relevance. Role conflict would lead to role stress, only if the person is equally committed to both roles. Similarly, events that are novel and unpredictable, ambiguous and which occur at crucial moments would be perceived as more stressful than an event characterised by the opposite.

(ii) The second issue is related to how the person deals with the situation once it has been perceived as being stressful, or the process of secondary appraisal, which determines the nature of coping to be adopted. Two types of coping are possible: Emotion focused coping or Problem focussed coping. The choice depends on the resources available to the person- health and energy resources, beliefs about the control over the environment, i.e.,
about god or life, and problem solving skills, social skills and material resources. Certain personal constraints and environmental constraints may however, mitigate the use of these coping resources. Personal constraints may be internalised values, while environmental constraints include demands that compete for the same resources.

(iii) The third issue focuses on the outcomes of stress. These refer to the pattern of reactions that defines the presence of stress. These may range from emotional experiences, motor manifestations, alterations in adaptive functioning to physiological reactions. A combination of these is also possible. The exact nature of the reaction will depend on the nature of the secondary appraisal, or the particular coping strategy decided upon.

(x) Systems Model

The systems model of stress proposed by Lumsden (1975) attempts to take into consideration all the salient feature of the different models, and calls for a systems analysis for stress. As the name suggests, the emphasis on the word 'system' signifies an inter-related constellation of parts. The stress system is conceived of as an open system, which is continually inter-reacting with the environment. The stress process is conceptualised as being dynamic and homeostatic in nature rather than a simple equilibrium model. The coping process over time due to either exogenous (natural disaster) or endogenous (sensory deprivation or blocking of goals) stressors are divided into three parts which are interconnected and inter-related at each level. When the stressors implies upon the person, the process of appraisal begins. This includes detection, meditation and the actual appraisal of the stimulus as a stressor. Appraisal sets into motion the second process called coping, based on the response of the person. The process of appraisal and coping
are circular, with the nature of coping response determining the nature of appraisal. The individual copes with the stressor by bringing about certain changes in his responses. Changes may be physiological, psychological, or behavioural, or interpersonal / societal and may be either adaptive or non-adaptive. It is these mal-adaptive responses (anxiety) which act as endogenous stressors in the produces adequate coping, an over adaptive response may seemingly appear successful out prove to be mal-adaptive in the long run. Maladaptive responses produced repeatedly may result in the dis-integration of the system (coronary problems, psychosomatic dis-orders etc.).

These processes function in a chain – like circular fashion, with the receipt of a signal triggering off a trail of events which may continue till the body is restored to equilibrium or dis-integrates due to mal-adaptive responses. Various meditating factors enter into the stressor – coping relationship. Some of these are age, sex, birth order, marital status of the person, child rearing practices (Dodge and Martin, 1970).

Psychological factors impinging on the relationship include degree of motivation, degree of hypersensitivity of the demands of the everyday life and appraisal, degree of introversion and extroversion, strength of the super ego, the nature of self-esteem and self-image (Levine and Scotch, 1970).

**Appley and Trumbull (1967)** have posited a similar set of factors. According to them the intensity of the reaction varies from person to person even under exposure of the same environmental event. Stress proneness of the person may be determined on the basis of the motivational structure and prior history. Where motivational are not accessible, prediction of the stress proneness may be made on the basis of what the person holds important, the types of goals that may lead to anxiety are aversive-defensive behaviour. Attempting to
consolidate approaches by various researchers, Levy – Leboyer (1982) made several observations. All researchers agree on the relational character of stress which is not related simply to either the person or the environment but is due to the inadequacy of the relation between individual resources on the one hand and the environmental demands on the other. Moreover, the subjective meaning of the situation to the individual conditions his appraisal of the situation. Inadequacy in areas unimportant to the person fails to produce appraisals of stress. Effects upon the person are cumulative and can cause serious harm if experienced over a long time, these analysis provide clear evidence of the complexity of Stress which can be better understood thorough a systems approach. An adequate theory of stress and stress research in general must take into consideration such interacting systems of variables. The later generally fall into three categories; Personality of the person, and his previous experiences: his activities and present aims; and the socio-cultural conditions and the systems and values they create.

To Hart & Cooper (2001) most of the recent occupational stress research was based on four assumptions. These assumptions have generally been accepted as ‘givens’ in the occupational stress literature and, despite contrary evidence being found in other areas of psychology, occupational stress researchers have rarely challenged or empirically tested these assumptions.

(i) \textit{Occupational stress is associated with unpleasant emotions}

First, it is generally believed that occupational stress is associated with the aversive or unpleasant emotional states that people experience as a consequence of their work such as tension, frustration, anxiety, anger, and depression. Several influential theories have also reinforced this view by emphasizing the link between occupational stress and psychological strain.
(ii) *Positive and negative reactions are inversely related*

The second assumption is that people experience feelings of stress at the expense of more pleasurable emotions, such as those typically associated with positive affect, psychological morale, and a sense of overall well-being. This assumption implies, for example, that stress and morale are at the opposite ends of an occupational well-being continuum, where one rises as the other falls. This may explain why occupational wellbeing indices, such as morale, have received little theoretical and empirical attention in recent times. It was merely assumed that stress resulted in an absence of well-being.

(iii) *Stress Can Be Measured by a Single Variable*

The third assumption is that stress can be expressed as a single variable. In other words, many researchers have assumed, at an operational level, that a single measure can be used to capture the concept of ‘stress.’ There is some debate, however, as to whether this measure should assess the objective characteristics of the environment, an individual’s subjective interpretation of the environment, or an individual’s psychological response to the environment. Newton (1989) has observed, for example, that response-based measures, such as those focusing on anxiety, depression, job satisfaction, or psychophysiological symptoms, are often used to assess stress in occupational settings. This approach has persisted throughout the 1990s, with many studies still using single measures, such as the Minnesota Satisfaction Questionnaire or the General Health Questionnaire, to assess occupational stress.

(iv) *Stress is caused primarily by adverse work experiences*

The fourth assumption is that adverse work experiences (i.e., adverse characteristics, events or situations in the work environment) contribute to the personal (e.g., poor quality of work life, low job
satisfaction, burnout, and lack of motivation) and organizational (e.g., increased sickness absence, stress related workers’ compensation claims, poor productivity, and high turnover) outcomes normally attributed to occupational stress. This may explain why many occupational stress researchers focus almost exclusively on the relationship between negative work experiences (stressors) and employees’ psychological outcomes.

2.3 LITERATURE REVIEW ON ORGANIZATIONAL STRESSORS

Stress refers to any environmental, organizational and individual or internal demands, which require the individual to readjust the usual behaviour pattern. Degree of stress results from events or situations that have potential to cause change. Stimuli or situations that can result in the experience of stress are called ‘stressors’. There are three major sources of stress: environmental, individual and organizational.

Environmental stress is not only caused by the factors intrinsic to job, but also influenced by the environmental or extra organizational factors. Stress results because of the individual’s interaction with environmental stimuli or factors such as societal or technological changes, political and economic uncertainties, financial condition, community conditions etc.

Role can be a source of stress when there is ambiguity about job responsibility and limits of authority, role set members have conflicting expectations on the way in which a role should be performed. Thus, role in terms of its normative, interpersonal and self-congruence aspect can give rise to stress.

More attention has been given, in the literature of occupational stress research, to organizational role stressors and “aversive working conditions associated with behaviours expected of each employee in an organization” than to any other source (Jex, 1998). Specifically, three organizational role-related
stressors have been identified: role ambiguity (when one is unsure of what one is supposed to do), role conflict (lack of consistency in the role set-related information provided by one’s colleagues or superiors) and role overload (when one’s employer or one’s work environment demands more than one can accomplish in a given time). Pareek (1983) has pioneered work on role stress by identifying as many as ten different types of organizational role stresses namely: IRD, RS, REC, RE, RO, RI, PI, SRD, RA, & RIn.

2.3.1 Sources of Stress

Shailendra Singh (1990), the author of ‘Organizational Stress and Executive Behaviour’ identifies ten dimensions of stress. The severest intensity are inadequacy of role authority, experience of inequity and job difficulty. In the moderate category are included role ambiguity, lack of leadership support and lack of cohesiveness. Role conflict, overload, job requirement – capability mismatch and constraints of change receive lowest ranking in terms of intensity of stress. On the 50% of the dimensions, Public and Private Sector Organizations are not different. Regarding the predictors of each of the ten dimensions of Organizational stress, no single variable found to be a common predictor of all ten dimensions of stress. Status, as defined by education and salary, reveals a negative relationship with seven of 10 dimensions of stress. Age is another variable that appears as a negative contributor to three of the 10 dimensions of stress. Regarding Organizational factors, professional management and concern for welfare are major preventive aspects of stress. All in all, no coherent picture emerges; while some factors minimize some kinds of organizational stress, these same factors increase other kinds of stress.

Individual vulnerability to stress can be thought of as varying for each person as well as between persons. Individuals may have characteristic vulnerabilities to a certain stressor; but there would presumably be detectable
variations, depending on models, daily events, and other current experiences. These less enduring personal properties would then act to moderate or exaggerate responses to stress, much as does more stable characteristics. The accumulation of stressful events also can be thought in terms of individual vulnerability. Several studies (Mclean, 1979) have demonstrated that stressful job changes may be associated with a dental disorder if the individual already has experienced another stressful event off the job.

High-stress jobs involve high levels of workload, responsibility and interpersonal or role conflicts or inadequate opportunity for doing interesting and valued work. Workers in high stress jobs have a higher prevalence and coincidence of wide range of diseases, and the greater the stress the greater the disease.

Adelina (2000)² examined the sources of stress associated with male and female retail managers, a sector recognized as being stressful and where women are more likely than in other occupational sectors to be managers. A total of 255 detailed self-completed mail questionnaires were distributed to males and females at various levels of retail management and responses were received from 62 female and 70 male respondents. The study found that both male and female managers were facing similar job pressures, in particular from ‘work overload’, ‘time pressures and deadlines’, ‘staff shortages and turnover rates’ and ‘long working hours’. Further, the study found female managers are suffering from additional pressures caused by sex discrimination and prejudice.

Andrew and Sandra (2002)³ examined the sources of stress experienced by professional Australian Footballers. Thirty three players by purposive sampling method from two Australian Football League clubs took part in the study involving in-depth, one-to-one interviews and focus group discussions. The study identified 77 different sources of stress which were then grouped into 16 categories of stressors which in turn grouped into six themes such as (a)
negative aspects of organizational systems and culture, (b) worries about performance expectations and standards, (c) career development concerns, (d) negative aspects of interpersonal relationships, (e) demanding nature of work itself, and (f) problems associated with the work/non-work interface. The results revealed that players identified sources of stress that went beyond those associated with the competitive event (such as poor performances) and included a lack of feedback, difficulty balancing football and study commitments, and job insecurity. The study recommended that the entire sporting experience needs to be taken into account when developing stress management strategies.

Mohsin Aziz (2004)\(^4\) points out that the organizational stress originates in organizational demands that are experienced by the individual. Stress is built up in the concept of role which is conceived as the position a person occupies in a system. This study investigates the intensity of organizational role stress among women informational technology professionals in the Indian private sector. Organizational role stress scale is used on a sample of 264 to explore the level of role stress. Resource inadequacy has emerged as the most potent role stressor, followed by role overload and personal inadequacy. The research organization finds differences in the level of stress between married and unmarried employees on several role stressors. However, level of education does not emerge as a significant differentiator of stressors.

Coetzer and Rothmann (2006)\(^5\) conducted a study to identify occupational stressors for employees in an insurance company and to assess the relationships between occupational stress, ill health and organizational commitment. A cross-sectional survey design was used with a sample of 613 employees in an insurance company. An Organizational Stress Screening Tool (ASSET) was used as measuring instrument. The results showed that job insecurity as well as pay and benefits were the highest stressors in the insurance industry. Two stressors, namely job characteristics and control were statistically significant
predictors of low organizational commitment. Physical ill health was best predicted by overload and job characteristics. Three stressors, namely work-life balance, overload and job characteristics best predicted psychological ill health.

**Aniza et al. (2010)**\(^6\) conducted a cross-sectional study on organizational factors that influences job stress among Medical Laboratory Technologists (MLT) in Klang Valley’s Hospitals. Three organizational factors that were measured in the study are interpersonal factor, job condition and career development. A total of 249 respondents participated in this study, 126 were from the private hospitals and 123 from the government hospitals. The study found prevalence of stress was higher in the private hospitals compared to the government hospitals. Further found all the three organizational factors were significantly associated with job stress.

**Moustaka et al. (2010)**\(^7\) conducted a research on occupational stress in the nursing staff with a comparison between capital and regional hospitals in Europe and identified the differences in factors related with stress in both samples under investigation. The study sample consisted of 140 nurses and nursing assistants, selected with a randomization technique. The study used the occupational stress scale of Kahn et al (1964) and a general information questionnaire. The study found that nurses suffer from occupational stress without any significant differences between the two samples. Increased work overload and conflict between professional and family roles contribute to the development of stress.

### 2.3.2 Sources of Stress and Job Satisfaction

**Muhammad (1990)**\(^8\) examined the relationship of job stress, job stressors, and ‘Type-A’ behaviour pattern with employees’ job satisfaction, organizational commitment, psychosomatic health problems, and turnover motivation among full-time nurses (N = 215) working in a large Canadian hospital. Both job stress and stressors (role ambiguity, overload, conflict, and resource inadequacy)
were significantly related to four outcome variables. ‘Type-A’ behaviour was associated with high job stress, high role ambiguity, conflict, resource inadequacy, and psychosomatic health problems. Further, ‘Type-A’ behaviour was found to be an important moderator of the stress-outcome relationships. Implications of the findings for management and for future research are highlighted.

Roland (2001) investigated the levels of perceived stress and job satisfaction among primary head teachers. Around half reported high levels of occupational stress but some half were satisfied with their work. Sources of stress and job satisfaction were examined under four headings: managing oneself and others; managing finances; managing the curriculum; and managing change. The highest levels of satisfaction came from personal factors and organizational factors. School organization was a source of stress and of satisfaction. The lowest level of satisfaction was with the level of social support. The study found significant differences in job satisfaction and stress with respect to gender.

2.4 LITERATURE REVIEW ON OCCUPATIONAL STRESS

Alexandros et al. (2003) investigated the occupational stress amongst 355 male and female Greek junior hospital doctors (JHDs) working in the Greater Athens area. The initial phase of the research involved in-depth interviews with a random stratified sample of sixty JHDs, both male and female, in a variety of specialties of junior hospital staff. An extended version of the occupational stress indicator (OSI) questionnaire was developed, incorporating additional items based on the results of the qualitative part of the study, and on previous research findings in the same area. The sample consisted of 193 males and 162 females JHDs, who completed the OSI. Analyses of the data demonstrated that, overall, JHDs presented significantly higher levels of sources of pressure than the normative population and other comparative occupational samples. As
regards the various sub-group comparisons, bivariate analyses revealed that there were significant differences between male and female JHDs in certain aspects of pressure (“career and achievement” and “home/work interface”). Multivariate analyses revealed that predictors of physical and mental ill health and job dissatisfaction were type A behaviour and “demands of the profession” respectively.

Winwood (2003) measured the levels of stress and alcohol consumption of 312 South Australian dentists. Factors known to mediate vulnerability to alcohol disorders were also assessed with appropriate psychometric instruments. High levels of stress/burnout were observed in the questionnaire survey. Hazardous levels of alcohol consumption, which was between two and four times higher than the normative South Australian population were also reported, particularly among males and rural dentists. To a significant extent, stress and hazardous alcohol consumption are both present among South Australian dentists. However, compared with work stress/burnout, existing personal vulnerability factors are much stronger predictors of such hazardous alcohol consumption.

Michailidis & Georgiou (2005) examined occupational stress of employees in the banking sector. A sample of 60 bank employees at different organizational levels and educational backgrounds was used. Data collection utilized the Occupational Stress Indicator (OSI). Results of data analysis provided evidence that employees' educational levels affect the degree of stress they experience in various ways. Bank employees cannot afford the time to relax and "wind down" when they are faced with work variety, discrimination, favoritism, delegation and conflicting tasks. The study also found that the degree to which some employees tend to bring work-related problems home (and take family problems to work) depends on their educational background, the strength of the employees' family support, and the amount of time available
for them to relax. Finally, the drinking habits (alcohol) of the employees were found to play a significant role in determining the levels of occupational stress.

**Daisy Chauhan (2006)** argued that stress is not similarly experienced by all people. The severity or gravity of a stressful situation depends on certain personality attributes like confidence, self-esteem, attitude, and certain qualities possessed by individuals like decision-making, sense of control, conflict resolution, possibility thinking. In that sense each individual has the capability to choose his/her response to a particular stimulus through his/her self-awareness, independent will, creative imagination and conscious decision. Only the capability varies from person to person. The researcher further asserted that we need to understand that we have the ability to control and influence the environment and therefore are responsible for whatever is happening in their lives and career. Such an approach would limit the effect of other forces (external circumstances, condition or conditioning) in matters concerning oneself. If the meaning of life is the presence of difficulties, challenges, change and conflicts then we need to learn to confront, adapt and meet the challenges by enhancing our capability and thereby realizing our potential. This is possible by adopting an integrated holistic approach to stress management. Seen in this regard stress management can be considered to be a preventive mechanism to reduce the risk of illness and thereby aim at a sense of fulfillment in one's professional and personal life by adopting a balanced approach to life.

**Lakshmi Narayanan (2006)** concluded that every person has a working lifetime/period of about 35 years, normally between 25 to 60 years of age. Given the Indian scenario of competitive market, over population and scarcity of good jobs, runs on the theory of “Survival of the Fittest”, no profession is stress free. The degree and depth may vary from one another. Both employer and employee must understand that work should be valued and not excessive. Work should not compromise on health and family life; rather offer happiness, peace
of mind, certainty, variety and flexibility. As a general rule, actions to reduce job stress should be given top priority in the process of organizational change to improve working conditions and to avert the situation of brain drain. But even the most conscientious efforts to improve working conditions are unlikely to eliminate stress completely for all workers.

**Bette Prakke et al. (2007)** examined teacher’s perceptions of their own ability to handle challenging parent behaviour and to establish positive relationships as a possible influence on the quality of teacher parent relationships. The data for this research was collected from 212 elementary school teachers in the middle and middle-east region of Western-Holland, the Netherlands. Using a canonical correlation method, the study found that unsatisfied parents, overprotective parents, neglectful parents and excessively worried parents have the largest impact on teacher stress. Teachers, who experience stress from challenging parent behaviour, suffer mostly from negative feelings toward parents, frustration on working with parents, loss of satisfaction with teaching and to lesser extent health problems.

**Nobile and McCormick (2007)** argued that a teacher’s occupational stress has been linked to absenteeism, turnover, productivity and other negative organizational outcomes. This study reported relationships between biographical variables and occupational stress of staff members in Catholic primary schools. The sample consisted of 356 staff members of Catholic primary schools in New South Wales, Australia. Data were collected using a questionnaire survey. Multivariate analysis and comparison of means were employed to test research hypotheses. Biographical differences, particularly age, sex and position, were related to several aspects of occupational stress.

**Mehrabi et al. (2007)** emphasized that the occupational stress is one of the most important occupational hazards in modern life which could lead to decrease in productivity, work absence, workforce transfer and high costs for
the personnel. The study evaluated the severity of various stressors in nursing. 170 nurses in various wards of Isfahan University of Medical Sciences hospitals who met the inclusion criteria took part in the study. The data was gathered using standardized Toft-Anderson questionnaire. Findings demonstrated that most of the nurses (73.47%) experienced stress at the medium level. Conflicts with physicians have the greatest relationship with the overall severity of occupational stress in nurses. Among the demographic parameters, only marital status and work hours had significant statistical correlation with the severity of stress.

Alaba (2010)\textsuperscript{18} designed a study to examine the statistical gender, academic qualification and marital status differences in primary school teachers’ use of Information and Electronic Technologies for stress management. 706 primary school teachers (176 males, and 530 females) from Nigeria constituted the sample of the study. Technology Usage and Job Stress Scale was used to collect the data. The results showed that teachers’ use of Information and Electronic Technologies for stress management was not gender driven, while academic qualification and marital status of the teachers influenced their use of Information and Electronic Technologies as stress coping strategy. The study suggested that the teachers should be responsive to the increasing technological innovations that serve as preventive and proactive coping strategy that will minimized excess workload that have direct and indirect ripple effects on teachers’ mental and physical health as well as quality of education.

Bahadoran et al. (2010)\textsuperscript{19} conducted a study to determine and to compare occupational stress and to define its relation with some personal and occupational characteristics of midwives of delivery rooms and midwives of maternal and paediatric health centres in Iran. Data were collected from two groups and in one stage design by using a structured questionnaire. The samples included 93 midwives of delivery rooms and 75 midwives of health centres. The results showed a significant difference between occupational stress
in both groups (delivery room midwives and health centres midwives). The study found no significant relation between age, marital status, level of education with occupational stress, but there was a significant relation between number of children, satisfaction, economic condition, personality type with occupational stress.

**Figen and Tatjana (2011)** conducted a study to determine the stress level of Turkish and Macedonian teachers living in different socio-cultural and economic situations. 416 Turkish teachers and 213 Macedonian teachers have participated in the study. A questionnaire survey with self-constructed scales was used for data collection in the present study. The study found that Turkish teachers have mild stress levels and Macedonian teachers have moderate stress levels. There is a meaningful difference in the stress level points of Turkish and Macedonian teachers. Further found that personal and social characteristics and working conditions have an effect on teacher stress.

**Sudha and Ronica (2013)** conducted a study to identify the level of occupational stress in bankers as well as to determine difference, if any, in occupational stress of employees from Nationalized and Non-Nationalized Banks. The sample comprised of 100 employees, 50 each from Nationalized and Non-Nationalized Banks in Chandigarh, having minimum one year of job experience in the same bank. The data was collected through standardized tool of “Occupational Stress Index” by Srivastava and Singh (1981). The findings revealed highly significant difference in occupational stress of employees working in Nationalized and Non-Nationalized Banks, with employees of Non-Nationalized Banks having higher occupational stress as compared to their counterparts working in Nationalized Banks.

**Aparajeeta et al. (2013)** investigated the extent of occupational stress among two major organizational service sectors within Guwahati city. The sample consists of three independent variables namely, sector, gender and income. The
study includes two major organizational sectors (public sector and private sector). A total of 100 participants were selected from both the sectors out of which N=50 from public sector and N=50 from private sector. Further, N=25 for employees drawing low income and N=25 for employees drawing high income. Low income suggests an income of up to 40,000 and high income suggest an income of 40,000 and above. Again, N=50 covering female employees in public and private sectors and N = 50 for male employees in both the sectors. Occupational Stress Index (Srivastava and Singh, 1981) was administered on employees belonging to middle and top level management in both public and private sector organizations. 2 × 2 × 2 factorial design was adopted for this purpose. Results indicate no difference in general stress level among both the sectors and levels. Further, results indicate that female participants in public sector organizations experience higher level of stress.

2.5 OCCUPATIONAL STRESS AND JOB SATISFACTION

Job-satisfaction has been defined as the positive orientation of an individual towards the work role which he / she is presently occupying (Vroom, 1964). The dissatisfaction of employee will lead to less work commitment and high turnover from the organization, as well as physical withdrawal. On the other hand, job dissatisfaction not only increases intention to quit but also reduce the contribution of the employee to the organization growth.

Employee turnover is a major issue for companies in many Asian countries such as Singapore, Hong Kong, South Korea, Malaysia and India (Khatri et al. 2001). Employee is a valuable asset for the organization. Employee means the individual who performs certain tasks and duties for the accomplishment of organizational goals. Turnover means voluntary cessation of membership of an organization by an employee of that organization. (Morrell et al 2001). Intention to Leave is broadly defined as attitudinal (thinking of quitting), decisional (intention to leave), and behavioral (searching for a new job).
processes proceeding voluntary turnover (Khatri et al. 2001). Employee turnover incurs significant cost, both in terms of direct costs (replacement, recruitment and selection, temporary staff, management time), and also (and perhaps more significantly) in terms of indirect costs (morale, pressure on remaining staff, costs of learning, product/service quality, organizational memory) and the loss of social capital.

From the literature review, it can be inferred that occupational stress includes the environmental factors or stressors such as work overload, role ambiguity, role conflict and poor working conditions associated with a particular job.

According to Organ (1990), when employees are asked about job satisfaction they typically think about fairness in terms of work conditions, pay and supervision. A comparison takes place involving what they expect and what they actually receive. Job satisfaction is defined as the employee's affective response to various aspects of the job or organization (Locke, 1976).

Numerous studies found that job stress influences the employees’ job satisfaction and their overall performance in their work. Because most of the organizations now are more demanding for the better job outcomes. In fact, modern times have been called as the “age of anxiety and stress” (Coleman, 1976).

Employees in any organization face changing demands within the dynamic environments of business and technology development. Due to the competitive nature of the job environment most of the people in the world are spending their time for job related work purposes resulting ignore the stressor those are influencing their work and life. Such constant changes create stressful working situations, as a result, the job satisfaction of employees is usually low and their job turnovers are high. Previous studies focused on job stress and job satisfaction of employees revealed that high levels of work stress are associated with low levels of job satisfaction and job stressors are
predictive of job dissatisfaction and a greater propensity to leave the organization (Cummins, 1990). This study examined the relationship between organizational role stress and job satisfaction levels of employees. It covers the impact of different dimensions of organizational role stress i.e. self-role distance, role ambiguity, role isolation & role inadequacy on the job satisfaction of the employees.

Some of the important and largely cited studies are discussed in this section:

Putter (2003)\textsuperscript{23} conducted a study to determine the nature of stress experience by teachers in schools of industries and to determine whether there are significant statistically relevant differences in the stress levels and manifestations for teachers in mainstream education and schools of industry. The study further examined the influence of gender, age and experience on the perceived levels of stress. A total of 106 teachers participated in this study. The teachers were asked to complete the Teachers Concerns Inventory which included a short demographic survey. The study showed that teachers experience high levels of stress with regard to time management, work-related stressors, professional distress, discipline and motivation and professional investment as well as high levels of stress with regard to emotional, fatigue, cardiovascular, gastronomic and behavioural manifestations. The results of this study indicated that demographic variables do not play a significant role in the stress levels of teachers.

Chandraiah et al. (2003)\textsuperscript{24} investigated the effect of Age on Occupational stress and job satisfaction among managers of different age groups. A sample of 105 industrial managers working in different large-scale organizations was selected randomly for the study. The findings of the study reveals higher levels of job stress and less job satisfaction among managers of 25-35 years age than their counterparts in the middle age (36-45 years) and the old age groups (46-55 years). The study also found that the age found to be negatively correlated with occupational stress and positively with job satisfaction.
Ahmadi & Alireza (2007) aimed at gathering preliminary data on the relationship between stress and job satisfaction among military pilots, so determine to what extent military pilots suffering from job satisfaction. This study was cross-sectional in design and used survey methodology. The survey was offered to 89 military pilots. Subjects completed a Questionnaire with 32-item on Aviation Stress and short form of Minnesota job Satisfaction Questionnaire (MSQ). Results indicated that 33.7 % pilots had mild stress, 48.3 % pilots exhibited moderate stress and only 13.5 % pilots indicated high stress. The stresses in pilots rating so: life stress, organizational stress, flight environmental stress and task-based stress. The study found correlation between job satisfactions and life stress, with organizational stress, with flight environmental stress, with task-based stressors and finally with flying hours.

Marzabadi & Tarkhorani (2007) examined the relationship between job stress, job satisfaction and mental health. The sample consists of 164 individuals who were employees of a governmental organization in Iran. All the individuals were interviewed, and the questionnaires that were used included the General Health Questionnaire (GHQ), Occupational Stress Inventory (OSI), and Job Descriptive Index (JDI). The study found that a large number of participants were ranked in the low-stress range, which was about 93.9%. Among the roles at work, the role conflict was the one with the highest results of about 35.54. The next highest stress level among the roles was role ambiguity, which got an average of about 31.81. Role overload and role insufficiency both got an average of about 29.25 and 28.96. The stress caused by physical environment got an average of about 37.93. The stress among individuals due to responsibility was averaged at 20.97. The stress related to the family got an average of about 23.97. In the end, the stresses caused by work and work and family were ranked at an average of 94.87 and 118.81, respectively.
They studied the satisfaction aspects of the individuals by breaking down the satisfaction level into three different standards, which were low satisfaction, intermediate satisfaction and high satisfaction, and analysed it from the perspective of work, chief, cohorts, preferment, salary and premium, and job. Finally, they concluded that there is a very close relationship between stress and medical illnesses.

Sarooj Noor (2008) examined the antecedents of turnover intentions among marketing executives in Pakistan. Relationship between stress and work life conflict with turnover intentions was examined. The research data was collected from 248 marketing executives working in different organizations across Pakistan. The results suggest that work life conflict and stress have a significant positive relationship with turnover intentions.

Mohd Bokti and Abu Talib (2009) determined the level of occupational stress, job satisfaction and relationship between occupational stress and job satisfaction facets among male navy personnel at a Naval Base in Lumut, Malaysia. A total of 40 male officers and non-officers, from the seaman and engineering and supply branch in the Lumut Naval Base participated in the study. Data were collected using a self-administered questionnaire, the Job Satisfaction Survey (Spector, 1997) and Job Related Tension Index (JRTI; Kahn et al., 1964). The study found that the majority of the male Navy personnel have moderate levels of job satisfaction in the favorable nature of work facet. High occupational stress on the other hand, was related to an unknown superior’s evaluation of one’s workplace performance. Correlational analyses found that occupational stress was associated with overall job satisfaction and in eight of its facets. Collectively, results provided evidence that both instruments are reliable in the Malaysian military setting context.
Deepti Pathak (2012) examined the relationship between organizational stress and job satisfaction level of an individual and the influence of perceived organizational support on the relationship between both. The study was done on a sample of 200 managers belonging to Private Sector Organizations of Delhi/NCR region. Three instruments were used in the study to assess Job Satisfaction, Perceived Organizational Support, and Organizational Role Stress. Job satisfaction was conceptualized as dependent variable whereas, organizational role stress as Independent variables and, perceived organizational support as moderating variable. Job Satisfaction was measured through a questionnaire developed by Paul E. Spector (1985) consisting of 36 items divided into nine dimensions. Perceived Organizational Support was measured through a questionnaire developed by Eisenberger et al. (1986), consisting of 36 items. Organizational role stress was measured through a questionnaire developed by Udai Pareek (1993), consisting of 50 items divided into 10 dimensions. The results indicates negative correlation between organizational stress and job satisfaction level among employees; perceived organizational support as a powerful moderator lessens amount of stress experienced and thus leads to higher job satisfaction. Results confirmed the importance of organizational climate & harmonious relationships as factors affecting the Job satisfaction and the organizational stress faced by the employees.

Kriti et al. (2012) conducted a study to find out the role of stressors on mental well-being of the lawyers. Further, they examined the relationship between occupational stress and job satisfaction. A cross sectional study was conducted in Dist. Court Sangli (Maharastra, India), which involved collection of data using predesigned proforma. By using Systematic Random sampling technique, a total of 120 lawyers out of 240 consisting of 76 males and 44 females were interviewed. Presumptive Stress Life Event Scale (PSLES) was used as a validated screening tool to calculate their Mental Stress Score. The
study found that 88.3% lawyers had experienced stress. The results showed that the female lawyers were experiencing significantly greater stress and burnouts as compared to males. Finally they found job satisfaction was significantly and negatively correlated with stress.

**Seema and Vishal (2013)** analyzed the various dimensions of Organizational Role Stress like role stagnation, role overload; inter role distance, role ambiguity and role expectation conflict in relation to job satisfaction on employees of different organizations in Surat region (India). The data & Information have been collected from 250 employees selected by simple random sampling and by using structured questionnaire using Likert five point scales. Using ANOVA, correlation and regression study found the correlation and causal effect between stress dimension and job satisfaction in addition variance with demographic factors.

### 2.6 LITERATURE ON STRESS COPING STRATEGIES

A stress can be damaging to the individual’s psychological and physical health because it often triggers physiological responses that may be harmful these responses to stress tend to be largely automatic. Controlling them depends on the coping responses people make to stressful situation. Thus a person’s mental and physical health depends, in part, on his or ability to cope affectively with stress.

**Definitions**

‘Coping’ refers to efforts to *master, reduce* or *tolerate* the demands created by *stress*. People cope with stress in many ways. A number of researchers have attempted to identify and classify the various coping techniques that people in dealing stress. Their work reveals quite a variety of coping strategies. People cannot remain in a continuous state of tension. Even if a deliberated and
conscious strategy if not adopted to deal with stress. Some of the definitions of Coping are listed as follows:

“Stress is a constantly changing cognitive and behavioral effort to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person.”


The word ‘Coping’ has two connotations in literature. The term has been used to denote the way of dealing with stress or the effort to ‘Master’ conditions of harm, threat or challenges when a routine or automatic response is not readily available.

-  Lazarus, 1991

“Coping is defined as an attempt to remove the feeling of discomfort.”

-  Dewe, 1993.

“Coping is the process which involves effort towards solution of problems.”

-  Whitehead, 1994

From this perspective, the key to understanding stress and coping is individual perceptions of demands and the sufficiency of their coping responses to demands. According to this transactional model, coping can be broadly divided into emotion focused coping and problem focused coping (Lazarus & Folkman, 1984). Emotion-focused (also called palliative) coping refers to strategies used to moderate distressing emotions. In contrast problem focused coping refers to attempts to alter the demands-coping imbalance.
Coping Behaviour & Strategies

Coping behaviour occurs when a person faces a threatening or dynamic change or problem that defies known or usual way of behavior and might give rise to anxiety, guilt, grief and shame, and again forms the necessity for adaptation.

McGrath (1970) has viewed coping as the covert and overt behaviour by which the organism actively prevents, removes or circumvent stress inducing circumstances.

Schregardus (1976) proposed two major styles of coping namely ‘Repression’ and ‘Sensitization’. He also found that patterns of defensive style were related to the perception of stress and to subsequent patterns of coping and adjustment.

Managing or coping stress means taking charge directly and controlling our responses to stressors, thereby modifying the overall stress. There are many ways to accomplish this goal, but most of them fall under two major headings modifying our environment and altering ourselves in some way, it means (1) Be Assertive (2) Withdraw if necessary (3) Compromise by ways of either conformity or negotiation or substitution. These ways to modify our environment and alerting (ourselves) our life style like built Stress tolerance, change pace of life, control distressful thoughts, acquire problem solving skills and seek social support.

Several researchers have identified two major ways of Coping called Problem Focused and Emotion Focused (Lazarus & Folkman, 1984). Both these options can be adaptive as well as maladaptive.

Coping can be adaptive, helping the individual deal effectively with stressful events and minimizing distress. Or it can be maladaptive, resulting in unnecessary distress for the self or a range of options available and on accurate linkage of options with the situation. Adaptive coping options, especially when
part of a broader positive coping style contribute to wellness – good health, productive, life satisfaction and personal growth.

Maladaptive Coping Options erode wellness. It reacts to one’s own temporary distress. Handling distress maladaptive means: trying to reduce it in ways that make it worse for the self or others. Many times what seems constructive in the short run turn out to be a destructive in the long run.

A great proportion of stress problems seen by physicians, therapists, and stress consultants are not from reactions to original stressors but are outcomes of coping behaviour that makes things worse rather than better. We must identify and change destructive ways of coping with stressors or we recognize our maladaptive reactions to our own distress. Some of maladaptive reactions to distress are alcohol and dependence, smoking, drugs, over-eating, escapism, spending sprees, physical and verbal abuse, blaming others, over-working; these are illustrative maladaptive response to distress. Thus, coping is the effort one makes “to control, reduce, or learn to tolerate the threats that lead to stress.” It is one’s effort to deal with stress.

Problem-focused coping attempts to solve the problem, i.e. address the source of the stress. Emotion-focused coping aims at reducing or managing the emotional distress caused. Others have added appraisal-focused coping, i.e. coping by controlling the meaning of the stressful situation (Rao, Subbakrishna and Prabhu, 1989). Coping with stress can be a proactive process spanning the stages of detection, prevention and mitigation of stressors (Aspinwall and Taylor, 1997).

To Lazarus and Folkman (1984), People go through three Stages of Coping with a difficult situation. First they engage in primary appraisal of the stressor. Here they decide, given their knowledge of themselves and the situation whether they are potentially threatened or are in jeopardy. Next they engage in secondary appraisal, they assess their resources for dealing with the stressor, as
Holroyd and Lazarus note, this assessment is influenced by previous experiences in similar situations, generalized beliefs about the self and the environmental resources. And the third phase is ‘Coping’. They take whatever action seems appropriate. This response might involve action or a cognitive adjustment – redefining the situation through self-talk or both.

Some peoples’ reactions to stressful events including their distress are deliberate or scripted. If they react with little awareness or deliberate choice, they probably behave with scripted coping responses. Many people cope in the same ways as their parents without realizing it, handling stressful events much like they did as children. Others respond thoughtfulness and intention with deliberate coping responses.

Further, research suggests that variability in coping is partially influenced by individual’s perceptions of the stakes involved in the situations and their perceptions of control. In addition, coping efforts shift to match changes in perceives demand characteristics (Lazarus & Folkman, 1984).

Some of the most cited works in the area of stress coping strategies were discussed as follows:

Ozer and Bandura (1990) documented the effect on coping by women when they achieve physical self-defence mastery. The authors’ study was carried out on 43 women who ranged in age from 18 to 55 years. Thirty-eight percent of this sample had been physically assaulted at one time or another by strangers, acquaintances, relatives or their husbands or boyfriends. None had been raped by a stranger, but 27% had had sexual intercourse forced on them in one or more relationships. The forced intercourse involved personal acquaintances (14%), relatives (8%) or their husbands or boyfriends (22%). Achievement of physical self-defence mastery improved their perceived self-efficacy and their engagement in recreational, social and cultural activities and reduced intrusive
negative thoughts, anxiety arousal, perceived personal vulnerability and general risk perception.

**Turnage & Spielberg (1991)**\(^{33}\) studied job stress in managers, professionals and clerical workers. They examined the intensity and frequency of occurrence of 30 job stressors as measured by the job stress survey in white collar employees of a large manufacturing firm, consisting of 68 managers, 171 professional (mostly engineers) and 69 clerical personnel. The highest levels of stress intensity were attributed to lack of opportunity for advancement, poor or inadequate supervision, and insufficient personnel to adequately handle an assignment. Individual stressors rated as occurring most often during the past 6 months were frequent interruptions meeting deadlines, and dealing with crisis situations. Two job stressors were identified, job pressure and lack of support. All occupational groups attributed greater intensity to stressors that reflected lack of organizational support than to job pressures. Managers reported experiencing job pressures more often than professionals/engineers; but attributed less stress intensity to these pressures.

**Tage Kritensen (1991)**\(^{34}\) undertook an analysis of absence from work regarded as coping behaviour. The study asserts that absence due to sickness cannot be understood as a simple function of ill health or other individual factors. (e.g. Job Dissatisfaction). Absence should be regarded as a coping behaviour that reflects as individual’s perception of his/her health (illness) and is a function of a number of factors primarily the combination of job demands and coping possibilities at the job (Job Strain). Absence from work in the Danish Slaughterhouse industry was analysed based on 4,407 Slaughterhouse workers. Data indicated that people with high job strain have a significantly higher absence rate. Absence is part of a pattern along with other coping strategies that are directed against stressful working conditions and perceived ill health.
**Shankar and Famuyiwao (1991)** carried out a study on stress among factory workers in a developing country. 110 factory workers participated in this cross sectional study. 35% of the samples experienced measurable health problems in the form of anxiety, sleep disturbance, depression, somatic complaints and other clinical indicators or stress. Job stress and social support levels support levels experienced by the samples judged “sick” by the General Health questionnaires were significantly higher than those of the control group, and particularly so far employees in lower levels of work hierarchy. In consonance with findings from the literature, job stress had a significant impact on mental health, with all the job stress parameters accounting for 41% of the variation in the general health. Those job stress variables that were significant predictors of health were job pressure (Security and Job Tension) and interpersonal rewards.

**Elliott et al. (1996)** explored the relation of problem-solving confidence, perceived tolerance, and situation-specific coping efforts to occupational burnout among nurses in physical rehabilitation units. Questionnaire survey was used to collect data from 98 nurses recruited from three different sites of Chicago. A 21-item burnout measure consisting of possible symptoms of occupational burnout was used for data collection from the respondents. The problem solving orientation was examined by using 32 items of Problem Solving Inventory (PSI) which contains three factors: Problem-Solving Confidence (PSC), Approach-Avoidance (AA), and Personal Control (PC).

The study found that greater confidence in problem-solving ability was associated with less burnout regardless of time on the job and inability to tolerate stress was associated with greater burnout. Consistent with predictions, confidence in one's ability to handle problems and perceived tolerance were significantly predictive of lower burnout scores, regardless of time spent on the job. Of the coping variables, emotion-focused coping was significantly associated with higher burnout scores.
Jyoti Ahuja (1996) in a study of personality, coping style and psychological well-being in executives obtained data from a sample of 50 middle level executives with a minimum of 5 years of work experience from a large private sector Organization. Results indicated that the executives perceived their jobs as fairly to highly stressful. In organizational set up, they observed stress pertaining to different situations and it was found that they might be influenced by such organizational factors as job satisfaction or job involvement.

Aspinwall and Taylor (1997) conceptualise proactive coping as consisting of five stages: (1) resource accumulation (building a reserve of temporal, financial and social resources), (2) recognition of potential stressors (screening the environment for danger), (3) initial appraisal (identifying the stressor and anticipating how it is likely to evolve), (4) preliminary coping (determining what one can do in the situation) and (5) eliciting and using feedback concerning one’s initial efforts (whether they have been effective and what one has thus learnt in the process).

Daftuar and Anjali (1997) studied occupational stress, organization commitment and job involvement in Sattva, Rajas and Tamas personality types. The study focuses on Indian view of three-dimensional approach to personality (i.e., Sattva, Rajas and Tamas) in relation to occupational stress, organizational commitment and job involvement. The data were collected; by administering 4 different questionnaires to measure four variables on a sample of 50 respondents belonging to an engineering manufacturing organization located a Western India. Significant negative correlation was found between job involvement and occupational stress whereas organizational commitment yielded significant positive correlation with Sattva personality types. In case of organizational stress, Sattva gave only one positive correlation with occupational stress whereas Tamas generated stress in several areas. No
positive significant correlation was obtained in case of Rajas Guna. It was in fact negatively correlated with role conflict.

Rajendran et al., (1997)\textsuperscript{40} studied occupational stress and coping patterns in an industry. It measures occupational stresses and studies different coping patterns used by people during stressful encounter. Executives of an industry suffering from neurosis (n = 30) were administered the occupational stress index and the coping checklist. Findings reveal a significant difference between the two groups in the areas of work role ambiguity, poor peer relation, low status, strenuous working condition, responsibility, under participation and powerlessness. Significant differences were also observed between action strategies of coping used by the two groups.

Dhar (2002)\textsuperscript{41} suggested that the meditation is the best technique for stress free life. Meditation is not a path of information but a path of transformation, not the path of knowing but the path of becoming. It is said five perversions (lust, anger, greed, attachment and ego) of mind create stress in the body like mental tension, migraine, high blood pressure, heart attack, diabetes, constipation, sleeplessness etc. Meditation develops virtues of chastity rather than lust, forgiveness rather than anger, detachment rather than attachment, generosity rather than greed, humility rather than ego. When the mind is detached from aforesaid five weaknesses, peace of mind automatically surfaces, balance of mind and state of well-being are experienced resulting in life free from stress. He also suggested that regular practice of integrated type of yoga can not only prevent the development of various psychosomatic disorders but also improve a person’s resistance and ability to endure stressful situations more effectively.

Schwarzer and Knoll (2003)\textsuperscript{42} present coping as falling into one or more of four modes: reactive, anticipatory, proactive and preventive coping. Reactive coping deals with a past or present stressful encounter by compensating for or alleviating the harm or loss caused. In anticipatory coping, the individual tries
to mitigate the risk or solve the actual problem before it takes place by increasing his/her self-efficacy or enlisting social support. Preventive coping is observed when the subject engages in anticipatory coping against critical events while they are still far in the future. Those who practice proactive coping, however, first develop life goals and thus interpret potential or actual losses, harm or threats as mere challenges en route. The authors also report the negative correlation between proactive coping and burnout.

Coping strategies have been found to be gender-based as well. Addis and Mahalik (2003) argue that, as a group, men seek professional help for mental health-related problems less frequently than do women. This is explained as being a result of a gender role socialisation that emphasises self-reliance, emotional control and power in males. If a man perceives help-seeking as requiring him to rely on others, to admit that he needs help, or to recognise and label an emotional problem, it goes against his perceived socialisation, viz. the importance of his self-reliance, physical toughness and emotional control. However, the authors find considerable individual variability within the stereotype.

Anne et al. (2004) attempted to identify various stressors which can lead to physical illness and psychological distress among psychiatrists. The aim of the study was systematically to review the evidence for the effectiveness of stress management interventions for those working in the psychiatric profession. Twenty-three international studies were included in the psychiatry section of the review. Psychiatrists report a range of stressors in their work, including stress associated with their work and personal stresses. One personal stress, which psychiatrists find very difficult to cope with is patient suicide. Coping strategies include support from colleagues and outside interests. No studies evaluated the use of stress-management interventions for psychiatrists.
Dileep Kumar (2004) conducted a questionnaire survey on 200 employees of nationalised and non-nationalised banks in Kottayam and Ernakulam districts of Kerala by systematic random sampling method. Only male population was considered in the study. A multidimensional analysis of job stress and coping patterns of employees is the primary focus of this study. The study found significant difference in the level of occupational stress between nationalized and non-nationalized bank employees. Occupational stress is found higher among non-nationalized employees compared to nationalized employees. Among different occupational stress variables Role over load, Role authority Role conflict and Lack of Senior level Support contribute more to the occupational stress among non-nationalized employees compared to nationalized employees.

Jennifer (2004) explored the sources of stress, stress reactions (emotional, cognitive, behavioral, and physiological), and coping strategies used by elite amateur and professional female golfers. Four elite amateur golfers and four professional golfers participated in this study. Structured individual interviews were used to gain insight into the sources of stress, stress reactions, and coping strategies used by the two groups of golfers. The responses given by the elite amateur golfers and the professional golfers were analyzed, and common themes were developed. The results indicate that stress is an individual response to each golfer's perception of her ability to cope with a situation. Although they recognized stress at different times and in different ways, these golfers used some common cognitive and behavioral strategies to deal with stressful situations.

Kaila (2007) found that women managers use emotion-focused coping, too, by conducting a descriptive study of 130 women managers. The stressors were task demand related (severe time constraints, i.e. the “treadmill syndrome,” and job insecurity and uncertainty); physically demanding work, including working in shifts; role demand related (work overload and unchallenging work lacking
achievement goals); and interpersonal demand-related (gender-based discrimination, conflicts with supervisors and subordinates, unexpected loss of social support, and damage control for colleagues’ fraudulent activities).

**Agolla (2009)** conducted an empirical study on the police work stress, symptoms and coping strategies among the police service in Botswana. The data was based on a sample size of \((N = 229)\) of police officers in Gaborone and its surrounding. A total of 10 police stations were sampled for this study. A simple convenient random sampling technique was employed to sample the participants. The finding from this study reveals that the police work stressors are; getting injured while on duty and the use of force when the job demand to do so etc. The coping strategies were identified as exercising, socialising, healthy eating or diets, career planning and employee training.

**Latif and Sultana (2009)** argued that the immense importance of assessing occupational stress, the problem of its measurement arises. But a review of the literature reveals the lack of valid and reliable instrument for measuring stress relating job. Although a number of scales measuring stress relating job may be available from other countries, they are unlikely to be appropriate in our culture since the items of these scales were developed to suit their own culture which is different from ours in many respects. Therefore, the authors found it essential to develop appropriate scale for measuring occupational stress in India. They developed an OSI index by removing the culturally unfamiliar items to the employees of India. The scale developed in Bengali was entirely based on OSI scale developed by Srivastava and Singh (1984) at Banaras Hindu University, Uttar Pradesh (UP), India. The scale purports to measure the extent of stress which employees perceive from various constituents and conditions of their job. The scale may be administered to the employees of every level operating in context of industries or other non-production organizations. The scale consists of 46 items, comprising 28 `true-keyed´ and 18 `false-keyed´ and each of which is rated on a five-point scale. The items are related to almost all
relevant components of job life which cause stress in some way or other. The account of items constituting various sub-scales such as role overload, role ambiguity, role conflict, unreasonable group & political pressures, responsibility for persons, under participation, powerlessness, poor peer relations, intrinsic impoverishment, low status, strenuous working conditions and unprofitability.

Anne (2010)\textsuperscript{50} evaluated the family caregiver experience using the data from the 2004 National Long-Term Care Survey in an effort to bridge the gap between caregiver research and practice. Caregiver burdens of negative care receiver behavior, activities of daily living, and time spent caregiving will be used as predictor variables for caregiver stress. Caregiver stress is indicated by financial stress and emotional stress. It was hypothesized that the effect of caregiver stress on caregiver’s perceived physical health and the effect of stress on life satisfaction would be mediated by coping behaviors and social support. However, mediation of these relationships was not supported. The researcher also hypothesized that stress, coping behaviors, social support, physical health, and life satisfaction will differ based on characteristics of ethnicity, relationship to the care receiver, and gender. It was found that while model fit was similar for all subgroups, there were significant path coefficient differences indicating that overall, the caregiver experience has similar variables but that based on the caregiver’s background characteristics, the caregiver experience is also unique. It was recommended that future research continue to explore ways to bridge the gap between research and practice.

Christian (2011)\textsuperscript{51} conducted a study on life events, life strains and coping behaviour in psychologically distressed and non-distressed college students. For this study, a sample of 480 students who are studying third year degree was selected from Ahmedabad city. The findings suggest that in comparison to non-depressed college students, depressed students lack many interpersonal skills, make unrealistic demands on themselves and others, and suffer from
motivational problems that impede their success in college. However, individuals who perceive themselves as ineffective problem solvers do report significantly more strains. In general, the degree of emotional distress reported by students, suggest that many students are ill equipped to cope with situations they perceive to be demanding.

**Aflakseir and Coleman (2011)** developed a religious coping measure for Iranians within Islamic context. A survey was conducted on group of university students (N = 185). The findings of this study demonstrated that the religious coping scale developed for use with Iranians had five factors comprising religious practice, benevolent reappraisal, negative feelings towards God, passive and active religious coping. The study also showed that the different scales of religious coping had good internal consistency and test-retest reliability and construct validity. The results indicated that Iranian students used positive religious coping methods more frequently than negative strategies. The research also indicated a significant association between the dimensions of positive religious coping, such as religious practice and psychological well-being.

**Rajesh and Ruchi (2012)** argued that chronic illness of a family member is an objective stressor that results in strain for the caregiver or relative because of the difficult tasks of caring for that person and is likely to affect both the physical and mental health of caregiver. They conducted a descriptive study to assess the extent and pattern of burden among caregivers and to identify the coping strategies used by them at Institute of Human Behaviour and Allied Sciences (IHBAS), New Delhi. Using convenience sampling technique, 32 relatives/caregivers were interviewed using semi-structured “Family Burden Interview Schedule (FBIS)” and “Coping Checklist (CCL)”. Findings of the study revealed that the caregivers experience moderate amount of burden. The amount of burden experienced was found to be significantly associated with the gender of the caregivers. More often, caregivers adopt positive cognitive
coping strategies followed by distraction and problem-solving to overcome burden due to patient’s illness.

**Schwartzman et al. (2012)**\(^{54}\) examined the relationship between coping patterns and interpersonal interactions in early psychotherapy sessions of 25 female patients with major depression. Transcripts were rated for coping patterns using the Coping Patterns Rating Scale (CPRS). Interpersonal patterns were assessed using the Structural Analysis of Social Behavior (SASB). The study found significant correlations were found between coping patterns and markers of interpersonal functioning in selected contexts.

**Ravneet et al. (2013)**\(^{55}\) studied the association of personality traits and coping methods to psychological stress in police personnel. A cross-sectional study was conducted among the constables and head constables working in the Police Department, Vizianagram town, Andhra Pradesh. The study sample consisted of 150 police persons. General Health Questionnaire-28 (GHQ-28) was used for assessing psychological stress, Eysenck’s Personality Questionnaire (EPQ) for personality traits, and Coping Checklist (CCL) for eliciting coping methods. The study found no significant association of the socio-demographic variables to psychological stress. Personality traits such as neuroticism, psychoticism, and extroversion and coping methods like negative distraction and denial/blame showed statistically significant association with psychological stress. The most commonly used coping methods across the sample were social support, acceptance/redefinition, and problem solving. The personality traits and coping methods have significant independent and interactive role in the development of high psychological stress in police persons, thus placing them at a high risk of developing psychiatric disorders.

**Onasoga et al. (2013)**\(^{56}\) conducted a study to determine the occupational stress management strategies among nurses in selected Hospitals in Benin City. A 45-item questionnaire was developed and administered. Purposive sampling
technique was used to select 100 nurses in the selected Hospital. Result of the study revealed that the major causes of stress identified by the nurses were poor salary, handling a large number of patients alone, lack of incentives and job insecurity among others. The major types of stress experienced were headache as physical stress; anger as emotional stress; lack of concentration and forgetfulness were the most psychological stress experienced in the ward. The major occupational stress management strategies were identification of the sources of stress and avoidance of unnecessary stress, altering the situation, expressing their feelings instead of bottling them up, managing the time better, adjusting the attitude and sometimes exercise and relax. There was no statistical relationship between age, sex, salary earned and types of stress experienced, but there was relationship between rank and the type of stress experienced.

Mesko et al. (2013)\textsuperscript{57} conducted a study to identify the symptoms of stress, strategies for coping with stress, and absenteeism among Slovenian middle management. The survey covered 211 middle-level managers employed in large and medium-sized enterprises in Slovenia. The data was collected by using two questionnaires. The first questionnaire was used in order to determine stress coping strategies (questionnaire of coping with stress CRI). The second questionnaire was used to identify stress loads and symptoms of stress among managers. Statistical analysis showed that managers who use problem-focused coping strategies are significantly less absent from work and experience lower levels of stress than managers who use emotion-focused stress coping strategies.
2.7 STUDIES ON STRESS AMONG IT PROFESSIONALS

*Lifestyle Diseases* such as heart problems, diabetes, depression and insomnia have shown an increase on the health graph of the ITeS (Information Technology Enabled Services) industry. The diseases accompanied with a lack of proper healthcare facilities are posing threat to the country’s youth and the fast growing outsourcing industry.

Employees of IT enabled service companies are at the highest risk of suffering from lifestyle diseases. They are constantly under stress, work against the clock and defy nature at every step. Few companies have addressed this problem but it is estimated that at this rate, the growth of the IT sector might be under threat.

In early 2000, there was truly a shortage of IT professionals in India and IT companies did every possible thing to keep employees happy. But today, every other good student aims to become a Software Engineer. Thanks (unfortunately), to a sudden growth in number of Engineering Colleges in India, you can find multiple engineering colleges in any mid-sized Indian city. These sub-standard colleges are not making "True" software engineers, but they are just admitting students and rubber stamping them as Engineers. Most education institutes have simply become factories where Software Engineers are being manufactured in mass.

This over supply of Engineers in the Indian market has led to increased pressure on both existing IT employees and those looking to get a job. Today, companies do not care too much if a Software Engineer leaves them because they can find several more desperate candidates for replacement, probably willing to work for a much lesser pay.
There is no doubt that IT companies (particularly MNC's) offer a much better work culture, but they form just a small percentage of the entire industry. People who are super-good in IT will still do well, but let’s accept the fact - Most people find it harder and harder to remain in Software Industry as years pass by. Most people, somewhere or the other fear getting displaced by younger generation as IT is known to be a young-blood industry. Several people who work in IT has zero family life and they are totally fed up of office politics, that leads to stress, depression and even till committing suicide, as it shown evidently, where it’s not a myth rather the bitter reality in the Information Technology sector.

Rajeswari and Anatharaman (2003)\textsuperscript{58} investigate sources of negative pressure among software professionals, from the perspective of the software development process. A multiple response questionnaire (survey instrument) was developed to measure sources of pressure among software professionals, based on a series of interactions with academicians, software professionals and senior software professionals employed in software industry. Ten key factors that cause stress in software professionals are identified using exploratory factor analysis from 156 usable responses. These ten factors are found to explain nearly two-thirds of the variance. The results indicate that stress resulting from fear of obsolescence and individual team interactions account for maximum variance. The results reveal that the stress levels are not high, among the respondents of the current study.

Hyman, Scholarios and Baldry (2005)\textsuperscript{59} conducted a survey among Scottish call centre and IT employees. The respondents in the survey were mostly women, in the call centres, and dominantly male, in the software companies. Overall, 40\% of the sample had children to look after. The study found that the respondents’ coped adaptively by asking their mothers or mothers-in-law to look after the (respondents’) children; asking their partners or spouses to stand in for them on chores; or swapping work shifts with colleagues. Their
maladaptive coping strategy was avoidant: absenteeism and quitting their jobs. Coping among the software employees included taking work home, spending longer hours at work, working from home part of the time or working longer but fewer workdays per week.

Suparna et al. (2005)\(^6\) conducted a cross sectional study among 200 Information Technology (IT) professionals in the National Capital Region (NCR) to study the computer related health problems and role of ergonomic factors. The computer related morbidity was present in 93% of the study subjects. The visual problems were seen in 76% and musculoskeletal in 77.5% while 35% felt stressful symptoms. The study subjects having inadequate lighting and not using an antiglare had greater visual problem, i.e. 81.3 and 76.3\%, respectively. Of the 152 subjects that had visual discomfort, 80.2\% did not have the monitor at correct distance. This observation was found to be statistically significant. The musculoskeletal problems were also higher in the study subjects using inappropriate ergonomics. The study has brought forth a very high prevalence of computer related morbidity among IT professionals and it further concluded that all aspects of ergonomic variables appear to be acting in cohesion in relation to computer related heath.

Sharma, Khera and Khandekar (2006)\(^6\) studied 200 Information Technology (IT) professionals in the 21- to 30-year age group from the software development, voice-based call centre and data entry communities and found that this sample’s computer-related health problems were visual problems (76\%), musculoskeletal (77.5\%) and stress (35\%). Overall, males and females were almost equally affected although females experienced more musculoskeletal problems and stress perception among males was higher. Comparatively, 96.3\% in software development, 92.6\% in call centre work and 89.1\% in data entry and data processing jobs had computer-related problems. Sharma et al confirmed that computer-related morbidity, at 93\%, is very high.
A study conducted by Chaturvedi, Kalyanasundaram, Jagadish, Prabhu and Narasimha (2007) on IT/ITeS professionals in Bangalore to detect stress, anxiety and depression showed that 36% of the sample could be considered as probable psychiatric cases. Common problems noted were the feeling of being constantly under strain; the inability to enjoy daily activities; being edgy, bad-tempered and dissatisfied with work tasks assigned; and not feeling in good health. The authors found that the rate of psychiatric morbidity in the sample was higher than that reported for the general population in India.

In Japan, Tominaga, Asakura and Akiyama (2007) conducted a survey on over 1,000 IT employees distributed across 53 companies and showed that the chief stressors were work overload, career and future ambiguity, inadequate performance appraisal systems and poor supervisor support. This confirmed the findings of Kawakami and Haratani (1999), who carried out a research review spanning 15 years to determine that organizational inadequacies in job control, skill use, worksite support and job demands were significant occupational stressors among Japanese professionals.

Vimala and Madhavi (2009) explored the influence of age and experience on stress and depression and the relationship between stress and depression among women information technology (IT) professionals in Chennai, India. The study was conducted in Chennai, India with a sample of 500 women IT professionals. The sample selection was done by a convenience sampling method. The data collected were analyzed using descriptive one-way analysis of variance and Pearson’s correlation test. Results showed that the women IT professionals experience moderate level of overall stress and stress dimensions. This study also reveals that 84% of the respondents experience medium level of depression and also suggest that age and experience significantly influence the overall stress and depression experienced by the employees. The study found a strong relationship between overall stress and depression.
**Bharat (2010)** states that suicide among Software Engineers due to Heavy stress in Indian Information Technology Industry. The perception that IT employees have a Super-Good lifestyle and less stress compared to other industries is totally wrong. Although it’s true that Software Engineers enjoy hefty salaries, but nothing in this world comes complementary. Most IT companies know very well how to take out the "juice" of a person who they are paying so well.

**Mohan and Ashok (2011)** studied the influences of age and experience on stress and depression and the relationship between stress and depression among the women information technology professionals in Bangalore, Karnataka. The study further examined about the various job stressors in IT industry and the level of stress among women software professionals. The study was conducted in Bangalore, Karnataka with a sample of 250 women software professionals by convenience sampling method. The data was analyzed using descriptive one way analysis of variance and Pearson’s correlation test. Results showed that the women software professionals experienced moderate level of stress and 85 percent of the respondents experience medium level of depression. The present study founded that the age and experience significantly influence the overall stress and depression experienced by the employees. Our study shows that there might be a strong relationship between overall stress and depression.

**Ranjit and Mahespriya (2012)** argues that stress has touched almost all professions and is high in software profession because of their nature of work, target, achievements, night shift and over work load. They conducted a study focusing on the job stress and quality of women software employees. The researchers adopted snow ball sampling technique and sample size of 201 responses were collected from a structured questionnaire. It was concluded that job stress influences the quality of life of women software employees. Further, concluded that the demographic variables do influence the level of job stress and quality of life of software employees.
Preetha and Hemalatha (2012) argued that IT careers are often characterized by hard work, long hours and tight deadlines. They conducted a study to assess personality types and stress levels of the selected IT professionals and to examine the relation between their personality types and stress levels. Data were collected from 60 IT professionals employed in four computer software organizations at Bangalore. The results showed that half of the selected IT professionals had stress prone Type ‘A’ personality and on the whole they had moderate stress. It was found that personality type and stress showed a positive and a significant correlation which indicated Type ‘A’ personality as more prone to stress.

Giridhara et al. (2013) explored the association of sexual behaviour and job stress in software professionals working in Bengaluru – India. A cross sectional study on 1071 subjects from software sector using a mixed sapling method was used for questionnaire survey. The exposure of interest was job stressors and the outcome measures were sexual behaviour in the form of having multiple sexual partners, paid sex in last 5 months and frequency of intercourse with irregular sexual partners and condom use with regular partners during last sexual act. Among the study population, 74.3% reported not using a condom during their last vaginal intercourse with their regular partner. Regression estimates indicated that workers with high physical stressors had 6 times odds of having paid for sex in last 3 months and those with a moderate level of income related stress had 2.4 times likelihood of not using a condom during the last sexual intercourse with their regular partner. Further concluded that there is scope for improving awareness in promoting safe sex practices such as condom use and knowledge about alleviating high-risk behaviors in IT/ITeS professionals and addressing occupational stress factors may be included in the scope of awareness programs.
Sailaja et al. (2013)\textsuperscript{70} investigated on the factors that contributed to stress and relations among the stress factors of software professionals in Bangalore city. The study has identified various factors and grouped it into five major stressors such as work stressors, role stressors, Personal development stressors, interpersonal relationship stressors and organizational climate stressors. The instrument developed by Telaprolu and George (2005) was adopted in this study to measure the level of stress among the software professionals. An analysis of about 100 professionals serving different software companies was carried out. The gathered data was analyzed using descriptive, correlation and regression analyses. The study reveals that the correlation of organizational climate with all other stressors and that the software professionals are much concerned of accommodating themselves to different roles in performing the work assigned. A regression is fitted with different stress factors.

Jithesh Sathyan (2014)\textsuperscript{71} attempted to identify the causes of work related stress in IT professionals and the common physical and emotional symptoms exhibited by IT professionals with high level of work related stress. The study collected data from 128 IT professionals, to identify a subset of professionals experiencing high levels of work place stress. 53 of 128 professionals reported work related issues as primary factor contributing to stress. Work related issues causing extreme stress, most frequently experienced physical symptoms associated with work related stress and most frequently experienced emotional symptoms associated with work related stress, were identified for the 53 professionals that reported work related issues as primary factor contributing to stress.

2.8 RESEARCH GAPS

Several research studies undertaken so far have emphasized on factors which are causing/effecting stress and the various consequences of stress, and job satisfaction in different countries. Very few studies have been conducted in the
Indian context. As there are differences among job opportunities, sex, qualification and working conditions from a country to country and from job to job considering paucity of research in Indian context in general, the researcher has considered conducting occupational stress causing factors and its consequences among software professionals working in India.

Occupational stress among software professionals in India was conducted earlier by few researchers, but there is a gap which needs to be filled up. Earlier studies have made an attempt to address the organizational stressors without validating the scales used in the survey (Pareek, 1993). There is a gap in research related to the individual stress levels and identification of coping strategies. Several researchers have focused on coping strategies such as yoga, meditation, counseling and training and its effectiveness. None have tried it in a comprehensive way in dealing the coping strategies such as problem focused, emotion focused and social support strategies.

Though research studies on stress management have gained importance over past two decades, considerable research has been conducted in the areas of job stress, job satisfaction and intension to quit among managers, executives, doctors, nurses, teachers and other employees of public sector firms. A very little research has been made in the recent professions such as software, BPO and insurance etc.

As indicated by the literature, the continued examination of stress is a timely topic in the workplace; only few studies have focused upon the matter of job stress in the IT industry professions that are having heavy workloads, irregular and long working shifts, high pay, recession (job insecurity), work from home, addictions, team work pressures, pressing deadlines etc. This made a gap to do more comprehensive research studies in the IT industry or on the IT professionals.
The research studies related to stress among IT professionals in India has been conducted by taking a particular city such as Chennai, Bangalore, Mumbai etc., as their sample frames because of the convenience of the researchers. And the sample sizes are too small to generalize the findings. A national level survey has not yet recorded in the IT industry related to occupational stress.

**Conclusion**

With increasing complexity in our lifestyle, the level of stress has been rising at a phenomenal rate. The factors that contribute to stress not only differ between cultures, but also within a culture itself; from a sophisticated industrial society to foragers; and from upper class with in the same society. The various researchers found that stress management is a crucial factor for an employee.

Several studies have tried to determine the link between stress and job satisfaction. Job satisfaction and job stress are the two hot focuses in human resource management researchers today. These studies generally indicate that job stress & satisfaction are inversely related.

Considering the increasing role of IT (Information Technology) in today’s industry, this study is intended to identify the causes of work related stress in IT professionals, their occupational stress and various coping strategies adapted by them.

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