CHAPTER – II
REVIEW OF LITERATURE

There have been a lot of studies conducted to understand the relationship between job stress and job satisfaction. These researches have shown that the people are suffering from increased amount of stress in their work environment and hence that caused them to suffer from medical illnesses. On the other hand, a good number of participants in the study showed a very high stress in their work environment that helped the researcher to learn the different factors that can provide an ideal environment for people at their jobs. Detailed surveys on research and non-research studies on various aspects relating to stress management both at international and national level are presented below.

International Level:

Niels O.Pors⁹, Based on a survey of British and Danish Library Managers the study explores the concept of job satisfaction and its relation to stress, job content and job conditions. In his study he explored the concept of job satisfaction and its relation to stress, job content and job conditions. The study evokes the theories of Hofstede as a tentative explanation of national differences. The study sets out to analyze job satisfaction in relation to a range of demographic variables. On the basis of a multitude of questions and statements the author forms several composite variables. They concern factors such as stress, freedom in the job, perception of management style and the actual job content. Hofstede's theories about cultural differences are at least partly confirmed through the analysis.

It is also evident that nationality plays a significant role in relation to factors such as stress and freedom in decision making. The study also hints that an intervening variable could be the way nations adopt different methods to reorganise the public sector. A last point made in the paper is the partial rejection of a generic theory about job satisfaction. The factors tend to be the same, but the weighting of the single factor and its significance are influenced by background factors such as nationality, size of the employing institution and the mix of tasks in the job.

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Crawford Hollingworth et.al.\textsuperscript{10} in their study, they found that there is a strong association between job satisfaction and stress, with low job satisfaction being associated with high stress. This association did not reflect the confounding of job satisfaction with demographic variables, and was not modified by day of week. Possible causal relationships accounting for this correlation have been discussed in the study.

Alexandros-Stamatios G. et.al.\textsuperscript{11} This study investigates 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.

Marzabadi E A, et.al. \(^{12}\) in their study the statistics were collected from 164 individuals who were employees of a governmental organization in Iran. In the study, it was 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.

\(^{12}\)“Job Stress, Job Satisfaction and Mental Health” Baqiyatallah University of medical sciences , Tehran, Iran. 2007.
In the end, the stresses caused by work and work and family were ranked at an average of 94.87 and 118.81, respectively. The standard deviation was seen to be highest in the category of work and family at 15.57, and the least deviation was reported with family stress at 4.37.

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. The satisfaction from preferment ranked the highest at about 20.1% and the satisfaction from work and salary and premium both were ranked at 13.4%. The lowest level of high satisfaction was seen from cohorts, which was at 1.2%. The satisfaction from cohorts in the intermediate satisfaction category was seen at the highest level with 88.4%. The satisfaction from work and chief in the intermediate satisfaction category were ranked at the second and third place with 86% and 84.8%, respectively. The lowest level of satisfaction was from preferment in the intermediate category with 16.6%.

In the study individuals were studied with reference of mental health, anxiety, social dysfunction and depression. Categorically, there were 22% of the individuals who were tending to have problems of mental health; 2.4% of the individuals were suffering from anxiety, 2.4% suffering from social dysfunction and 1.2% were suffering from depression. They have discussed that the relation between total satisfaction and mental health, their relation was significant and negative (p = 0.301). Covariant between job and family stress and job stress was p = 0.87 and this covariant was significant in 99%.
The results in broader terms were really amazing where about 93.9% of individuals were noted in the low stress range, 3% in the intermediate stress range and 0% reported in the high stress range. In the low stress category, there was an increased percentage of people who were having problem balancing their work life and family life, which was about 85.4%, and about 75.6% were suffering from low stress due to role overload. With regards to the satisfaction, the highest rank was taken up by satisfaction from cohorts, which was at 88.4%, 86% from work and 84.8% from chief. They concluded that there is a very close relationship between stress and medical illnesses. There are a lot of individuals in a lot of studies who have shown to suffer from increased amounts of stress just because they are not paid well, because of bad work environment, because of less growth opportunities, etc., and all these factors just lead to the development of high stress and can ultimately make a person to suffer. This study showed that there were a lot of individuals who were suffering from low stress and that has really helped them to understand the different factors that were related to job satisfaction and mental health, as well as job stress and its relation to mental health.

Richard Peter, et. al, in their study they pointed out that associations of effort-reward imbalance at work and reported symptoms in different groups of male and female public transport workers, established that the risk of ill health is increased by an imbalance between effort and reward. Both these Tests signify the correlation of stress with risk of psychiatric disorder and coronary heart disease. Siegrist alarmed that work stress is associated with cardiovascular risk factors such as hypertension and hyper-cholesterolaemia as well as overt disease.

13 ‘Effort-Reward Hypothesis” journal of Inter Science – Dec 1998
Manshor, et.al.\textsuperscript{14} in their study examined it was found that workloads, working conditions, and relationship at work were the main concern of the managers that lead to stress at the work place. The results also indicated that certain demographic variables do influence the level of stress among managers.

Anne Marie Berg et.al.\textsuperscript{15} in the study they pointed out that the prevalence of subjective health complaints was relatively high and was mainly associated to job pressure and lack of support. Males showed more depressive symptoms than females. All stress factors on frequency were positively associated to the burnout dimensions depersonalization and emotional exhaustion, except work injuries.

Nicolson. N. et.al.\textsuperscript{16} in their study they examined the effects of perceived stress and related individual characteristics, mood states, and stressful daily events on salivary cortisol levels. Forty-one "high stress" and 46 "low stress" subjects were selected on the basis of Perceived Stress Scale scores from a sample of male, white collar workers. Subjects completed Experience Sampling self-reports and collected saliva samples 10 times a day over 5 consecutive days.

Multilevel analysis revealed that trait anxiety and depression, but not perceived stress, were associated with small but statistically significant cortisol elevation. No effects on cortisol were found for recent life events, chronic difficulties, trait anger, or psychosomatic symptoms. Distress, as reflected by the mood states Negative Affect and Agitation, was associated with higher cortisol levels, whereas Positive Affect had no statistically significant effect.

Stressful daily events were associated with increased cortisol secretion, the magnitude of the effect depending on whether the event was still ongoing and on how frequently a similar kind of event had occurred previously. Although perceived stress, anxiety, and depression did not increase cortisol reactivity to daily events, they found evidence for reduced habituation to recurrent events in subjects scoring high on these traits. Mood appeared to play a mediating role in the relationship between stressful events and cortisol secretion. These results suggest that negative affectivity is not just a confounder but is related to elevated cortisol secretion during normal daily activities. The finding that even minor events and fluctuations in mood states were associated with increased adrenocortical activity points to a possible mechanism linking subjective experience to health outcomes.

Carol Simons, et.al\textsuperscript{17} They investigated the effects of perceived stress and availability of coping resources to predict satisfaction with life among a cohort of college students in Turkey (N=172). Results indicate that both perceived stress and coping resource availability moderately predict level of life satisfaction. It was further found that the combination of coping resource availability and perceived stress is a better predictor of life satisfaction than either variable is when considered separately. Results also indicate significant correlations between life satisfaction with perceived economic well being, social support, and stress monitoring.

\textsuperscript{17} “Coping resource availability and level of perceived stress as predictors of life satisfaction in cohort of Turkish college students”, College Student Journal, March, 2002.
Roland P. Chaplain\textsuperscript{18} in his study he investigated that 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. Two subgroups reporting ‘very high’ levels of stress differed markedly in levels of job satisfaction—one ‘very satisfied’, the other ‘not satisfied’. These differences were related to gender and perceived sources of job satisfaction and stress.

Jennifer McLean\textsuperscript{19}, The purpose of his study was to provide an initial exploration into the experiences of distance education faculty with regard to occupational stress and job satisfaction. The results of this study indicate that distance education is a rewarding career path for many higher education faculty. The challenges faced by faculty teaching exclusively at a distance are not entirely different from those of their on-campus counterparts, but the form those challenges take and the avenues by which they are managed are necessarily changed in the distance environment.

\textsuperscript{18} “Stress and Job Satisfaction among Primary Head teachers - A Question of Balance?”, Homerton College, University of Cambridge, Educational Management Administration Leadership April 2001 vol. 29 no. 2 197-215.

\textsuperscript{19} “Forgotten Faculty: Stress and Job Satisfaction Among Distance Educators”, Pennsylvania College of Technology, Online Journal of Distance Learning Administration, Volume IX, Number II, 2006.
John J. Gorrell, et.al.\textsuperscript{20} in their study, two hundred and four elementary and secondary public school teachers and student teachers were presented with an inventory of potentially stressful school situations in five categories: discipline and classroom management, personal relations with students, student progress, Institutional demands, and facilities and supplies. Subjects rated the situations according to levels of stressfulness and importance. Dependent measures were analyzed employing a 2 (elementary vs. secondary) x 2 (full-time vs. student teacher) ANOVA. Analysis of the data revealed that elementary school teachers reported significantly higher levels of stress than secondary school teachers. Significant univariates were found between these two groups in four of the five categories. The pattern of significant effects supports a conception of two types of stress, structural and conflict, affecting the teacher.

Sung-Hye K. et.al\textsuperscript{21}, their study assessed the relationships between health behaviors of health professionals in South Korea and their perceived stress, job satisfaction, and role as positive models of health behaviors.

The results showed significant relationships between health behaviors and health professionals perceptions on stress, job satisfaction and role modeling (p<.05). The results suggested that practicing positive health behaviors could have an influence on job performance as well as creating positive self-perception of health professionals.


\textsuperscript{21} The Relationships of Health Behaviours to Perceived Stress, Job Satisfaction, and Role Modeling among Health Professionals in South Korea” International Quarterly of Community Health Education, Volume 19, Number 1 / 1999-2000.
Lawson K. Savery,\textsuperscript{22} the data for his study were collected by the federal government from workplaces across Australia and released in late 1997. It seems that having influence on decisions affecting a person and type and speed of work seems to alter the perceived level of job satisfaction rather than the level of job stress. This study investigates these findings further and discusses the influence of some demographic variables on job satisfaction. The final area of the study will look at how all these variables will impact on the perceived productivity of the organization.

S Saddiq & E Burke,\textsuperscript{23} They explored the validity of Warr’s (1994) nine-environmental stressors’ questionnaire in a sample of employees from five occupational groups (police service, fire service personnel, school teachers, train personnel, and librarians) argued to vary in the stressful nature of their work duties. The association between perceived occupational stress and absenteeism, psychological health, job satisfaction, and family stress was examined. The study has provided extensive support for the effects of occupational stress upon psychological health and undesirable work outcomes.

Participants who reported greater stress levels were likely to have poor job satisfaction, have greater work-family stress and also more unofficial absenteeism in comparison to those reporting lower stress. Furthermore, individuals with greater perceived stress were more likely to exhibit psychological disturbance. Interestingly, no differences in stress were found between stress reports by males and females. The greater levels of perceived stress reported by Librarians might suggest a personality co-variant that results in


\textsuperscript{23} “An investigation into the role of perceived work stress upon absenteeism, job satisfaction, psychological health and family, across 5 disparate occupational groups”. SHL Group Plc. (2002)
certain personality types to seek jobs that are unlikely to induce high levels of stress. Indeed, a highly trait anxious individual is unlikely to seek out a career in a profession that is highly anxiety inducing such as the fire service or the police force.

Hunter A. McAllister, in his revealed that elementary school teacher reported significantly higher levels of stress than secondary school teacher. Significant univariates were found between these two groups in four of the five categories. The pattern of significant effects supports a conception of two types of stress, structural and conflict, affecting the teacher.

Mónica Teresa González Ramírez, the aim of their study was to analyze the cultural adaptation of the European Spanish version of the Perceived Stress Scale (PSS; Cohen, Kamarak, & Mermelstein, 1983), for its use in Mexican samples. Using a random sample of students, internal consistency was analyzed and the factor structure of the Spanish version of the PSS was compared with the factor structure found in the English version. Internal consistency was adequate (α =.83) and confirmatory factor analysis corroborated the factor structure.

Factor 1 explained 42.8% of the variance and Factor 2 accounted for 53.2%. The goodness-of-fit measures also revealed an adequate fit. The cultural adaptation of the PSS was also evaluated with satisfactory results.

Anthony Chukwuka Ugwu, et.al. their study was aimed to determine the impact of role extension of medical radiographers into sonography. 50 self-administered questionnaires were distributed to radiographers and to

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24 An Analysis of perceived stress in elementary and secondary student teacher and full time teachers, Southeastern Louisiana University (2008)
sonographers (radiographers with sonography responsibility). The questionnaires included questions seeking information on the demographic profile of the radiographer and sonographer, anatomical regions of biomechanical symptoms/stress and visual analogue scale (VAS), which rated job satisfaction and anxiety levels. 96% of the questionnaires were returned and analyzed statistically using SPSS 11.0 software with $P < 0.05$ indicating level of significance. Sonographers had more prevalence of biomechanical stress symptoms than the radiographers. Job satisfaction for sonographers (58.75%) was lower than that for radiographers (64.29%). Anxiety level was higher among sonographers even though this was not statistically significant. Sonography responsibility on radiographers did not have any significant effect on psychosocial stress. A balance in the extended role could aid efficiency in service delivery while improving the social strength of the individual.

Nor Liyana Mohd Bokti and Mansor Abu Talib,\textsuperscript{27} in their study 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, 1985) and Job Related Tension Index (JRTI; Kahn et al., 1964). This preliminary study established internal consistency using Cronbach alpha values for both instruments. Additionally, the study determined the level of occupational stress, job satisfaction and relationship between occupational stress and job satisfaction facets. The findings of the study revealed that the reliability of both instruments were greater than 0.80.

\textsuperscript{27} A Preliminary Study on Occupational Stress and Job Satisfaction among Male Navy Personnel at a Naval Base in Lumut, Malaysia, The Journal of International Social Research Volume 2 / 9 Fall 2009
The majority of the male Navy personnel reported 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 provide evidence that both instruments are reliable in the Malaysian military setting context.

Rubina Kazmi, et.al. The purpose of their study was to investigate the effect of job stress on job performance. The universe of the study was District Abbottabad, Pakistan and the complete population of house officers was targeted which were present at that time were 55. The data obtained through questionnaire was analyzed using the statistical methods including descriptive statistics, Spearman’s correlation and multiple regressions. The analysis showed strong support for the hypothesis that there is an inverse relationship between job stress and job performance indicating that there is high job stress in the house officers, resulting in low job performance. Correct stress management should start from improved health and good intrapersonal relationships.

The prevention and management of workplace stress requires organizational level interventions, because it is the organization that creates the stress. Success in managing and preventing stress will depend on the culture in the organization. A culture of openness and understanding, rather than of criticism, is essential. Those house officers who had high level of job stress had low job performance. All the factors affected male house officers more than the female house officers.
Azizi Yahaya, et al. The aim of their study was to find out the causes of occupational stress within the organization and the implication on job satisfaction and intention to leave and absenteeism. The researchers choose 100 employees in Companies Commission of Malaysia, a statutory body which regulated company and businesses. All questionnaires are gathered after 2 weeks after it was distribute. Pearson product moment correlation to find out correlations and Multiple Linear Regression Technique were used to find out effect between variables. The finding indicates that factor such as external environment contribute to the occupational stress. This external factor is beyond the control of the organization. The finding showed that occupational stress does not have direct effect on intention to leave and absenteeism but have direct negative effect on job satisfaction. Job satisfaction has negative effect on intention to leave and absenteeism. Some recommendation needed to be applied by management to reduce the number of turnover, first organization need to increase job satisfaction by reducing occupational stress. By reducing stress companies can reduce the level of intentional to leave and absenteeism.

M van Eck, in his study he examined the effects of perceived stress and related individual characteristics, mood states, and stressful daily events on salivary cortisol levels. Forty-one "high stress" and 46 "low stress" subjects were selected on the basis of Perceived Stress Scale scores from a sample of male, white collar workers. Subjects completed Experience Sampling self-reports and collected saliva samples 10 times a day over 5 consecutive days. Multilevel analysis revealed that trait anxiety and depression, but not perceived stress, were associated with small but statistically significant cortisol elevation. No effects

28 The effects of perceived stress, traits, mood states, and stressful daily events on salivary cortisol, Department of Psychiatry, University of Limburg, The Netherlands. (2010)
on cortisol were found for recent life events, chronic difficulties, trait anger, or psychosomatic symptoms. Distress, as reflected by the mood states Negative Affect and Agitation, was associated with higher cortisol levels, whereas Positive Affect had no statistically significant effect. Stressful daily events were associated with increased cortisol secretion, the magnitude of the effect depending on whether the event was still ongoing and on how frequently a similar kind of event had occurred previously. Although perceived stress, anxiety, and depression did not increase cortisol reactivity to daily events, we found evidence for reduced habituation to recurrent events in subjects scoring high on these traits. Mood appeared to play a mediating role in the relationship between stressful events and cortisol secretion. These results suggest that negative affectivity is not just a confounder but is related to elevated cortisol secretion during normal daily activities. The finding that even minor events and fluctuations in mood states were associated with increased adrenocortical activity points to a possible mechanism linking subjective experience to health outcomes.

María del Pilar González Vigil, in his study, he focused on the stress perception, stressful situations, and stress management strategies in studies of Swedish and Peruvian students from a teacher-training program. The research design that is applied for this purpose is comparative. The sample includes Swedish and Peruvian second year students and administrative staff from a teacher-training program. The research instruments are questionnaires and interviews. The main findings of this study indicate that in spite of the cultural differences, both groups of students present as many similarities as differences. On the one hand, Swedish and Peruvian students manifest a particular profile

29 Stress Perception, Stressful Experiences and Stress Management Strategies, A Comparative Case Study of Swedish and Peruvian Teacher Students, Stockholm University, Sweden (2010)
in the way they perceive the concept of stress, experience specific stress effects in studies, and manage stressful academic situations. On the other hand, both groups present some similarities considering specific stressful situations in studies; their perception of stress as negative in their academic performance, emotional state and health; their variable competence to manage stress in studies; and their desire for having a course on stress management.

**National level**

HI Dhar\(^3^0\) in his study he 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.

Prof. Dileep Kumar. M\(^3^1\) in his study he found that there is significant difference in the level of occupational stress between nationalized employees.

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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. He recommended that to alleviate the negative consequences of stress more effort on the part of policy makers, practitioners, and organizational management envisaged. The author, there by making a few effort to suggest some effective measures, that can alleviate the stress of bank employees and leads to their better adjustment within the organization. They are the management Organize a Stress Management Program that focuses on different leave categories of employees at all hierarchical level. Organize Stress Management training programs' with specific human resource development goals in consultation with Senior Management. Finally he concluded that the productivity of the work force is the most decisive factor as far as the success of an organization is concerned. The productivity in turn is dependant on the psychosocial well being of the employees. In an age of highly dynamic and competitive world, man is exposed to all kinds of stressors that can affect him on all realms of life. The growing importance of interventional strategies is felt more at organizational level.

Anjum Mahdi the major result of the study was, the main effect of organization has a significant effect, on the degree of stress. The interactions between the type of organizations and the type of workers as well as between the organization and intervention techniques also have a significant effect on stress. There is a significant effect of the type of organization and intervention technique

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on the degree of stress. Likewise the interaction effect between the organization and the intervention techniques had the significant effects on the degree of stress in the after situation. There is a significant difference for the application of medication and non-medication techniques in the degree of stress between before and after situations. Subjects belonging to the three different organizations are highly significantly difference in "the degree of stress in before situations as well as in the after situation. There is a significant difference between the application of medication and non-medication techniques for managing the stress. Moreover there is also a significant difference both in before and after situations for the application, of techniques to manage stress. Supervisors and workers belonging to Air Force are significantly different in religious and moral values. Supervisors and workers belonging to CRPF are significantly different in religious and moral values. He concluded that subjects belonging to three different organizations vary in the magnitude in the stress. And the intervention technique of medication and non-medication helped in the reduction of stress where non-medication had an edged over medication. Even in non-medication techniques yoga was more powerful than spiritualism. Among the values only religious and moral values were significantly different from the supervisors and, workers of the subject belonging to Air Force and CRPF. The majority of correlation between different values showed inverse relationship.

Sujatha Muthanna\textsuperscript{33} in her study she found that the top level managers experiencing high occupational stress from different departments and age groups and having different levels of Anxiety, Peer relations and Personality.

\textsuperscript{33}“A Comprehensive Stress Management Module among Top Level Managers” published in the \url{www.odsummitindia.org/content/html}, 2007.
N. Panchanatham, et.al.\textsuperscript{34}, in their study they predicted that there is a positive correlation between executives’ coercive leadership behaviour and their occupational stress. The results shown in study explained the fact that there is a significant and positive relationship between these two variables. Further it is noted from the study that the coercive leaders are more stressful than their counterparts. From the result it is evident that organizations taking efforts to reduce the executive stress level can help them to make changes in the executives’ leadership pattern. It is true, that every executive is expected to follow more than one leadership style according to the situation. However, being always dominant in coercive style particularly the implementor is an obstacle to get things done.

They suggested that the Organizational trainers have to concentrate on various stressors responsible for the executives’ occupational stress. Role overload, Role ambiguity, Role conflict, Unreasonable group and political pressures, responsibility for persons, under participation, Powerlessness, Poor peer relations, Intrinsic impoverishment, Low status, strenuous working conditions and unprofitability are the stressors. Formulating strategies to deal with these stressors ultimately would result in reducing executives’ level of stress substantially. Such executives’ problem solving behaviour would be highly desirable and their unique style of problem solving behaviour can vividly be seen in the organizations. Panchanatham and Shanmuga Ganesan (1992), Panchanatham et al. (1992,1993 a, b, c 1995) and Panchanatham (1994, 1996) have dealt with the need for problem solving behaviour of the individuals in their corporate world considering the changes taking place in the environment.

Finally they have concluded that the Executives differ in their problem solving styles and leadership styles. There is a significant and positive correlation between executives’ coercive leadership style and their level of occupational stress. Coercive leaders are more stressful than their counterparts. For better leadership pattern the executives’ stress level is to be monitored by an organizational HRD division. Formulating strategies to maintain emotional balance among the problem solvers need thorough dealings with occupational stress.

John Mathew, et.al. In their study they observed that Significant numbers of individuals [80%] like to return to their workplace which shows the willingness among the people of the sample to go to work. This can be an indication of the high degree of work ethics prevalent among people, that in spite of stress situations, they are willing to go to their workplace. This might also be the reason of the various incentives like enjoying the work, moving out of the house, meeting people, increasing and sharing knowledge and of course earning.

When they were asked of the reason for the stress or the factors causing stress, majority (43%) of individuals stated the factor of "working with a disagreeable person" as the major cause or reason of stress at the workplace. There are other reasons also for stress like the "impossible standards" and "too much of responsibilities" which were reported as the stressors by a relatively good number of individuals.

Regarding the effects of stress, there was a unanimous result that we observed; out of the total sample, 76% individuals replied stating that stress affects them mentally and hence impairing the quality work that they can do

35"Stress at the Work Place” National Conference on Stress Organized by Department of Psychology, Saurashtra University on February 19-20, 2003.
at their workplace. While there were very few people who replied that it affects them physically, quite a few number of people agreed that stress affects them mentally as well as physically. Regarding the symptoms of stress, the answers were spread evenly as no significant solution came out. This point to the fact that the evil of stress has no common recognizable label. It can result in bad behavior or losing out the energy or person, becoming argumentative and becoming over-reactive and frustrated resulting in losing the control over them.

Nearly 36% of the sample indicated that they feel lack of energy than usual when they are under stress. Although working people are under stress, still they are efficient. This might be the reason of their personal remedies. 37% individuals are doing away with making an adjustment with them or to say compromising with the situation by choosing the middle path for the decision. As the sample includes the educated work force lot of people (27%) apply a thought over the situation and think a lot over the matter. This shows the consciousness among the educated workforce regarding the presence of stress in their workplace. Some startling facts were observed when a straight question was asked to them regarding their decision taking capability. As good as 33% (1/3rd) of the total people surveyed replied negatively, confessing their inefficiency in taking the most simplest of decisions. 27% people replied positively when they were asked whether they are over-reactive to the mild things and 23% people were having the stress of overburden of work. They concluded that the Individuals vary greatly in their capacity to endure stressful situations, and there is, undoubtedly, self-selection in the kinds of jobs and stressors that individuals choose. Because sources of stress may vary from worker to worker, providing a solution for one worker may create stress for another worker.
For example, if the organization provides more opportunity for influence over the work process, the change in control may be experienced positively by some but negatively by others. A partial solution to this problem (Lazarus, 1991) may involve intervening with groups of workers that are formed based on person-environment relationships, and which contribute to the generation or reduction of stress.

Prof. Lakshman\textsuperscript{36} in his study he specifically found that 76\% of survey respondents thought that their career prospects would be damaged if they complained of stress, and managers confirmed that they are right to think this. 79\% of managers said they would be less likely to employ a candidate if they suspected that they were prone to stress and 87\% would be less likely to promote an existing employee if they had doubts over their ability to handle stress. One in four said that their average stress levels at work were either high or very high. Only 9\% considered poor compensation and benefits to be a major concern, which indicates that those who have not been affected by redundancy or restructuring are grateful to be in employment. Job insecurity was stated as being a cause of stress for almost half of all respondents. A large proportion of managers said that core people management tasks such as handling performance appraisals or conducting the recruitment interview were a significant source of stress for them. This suggests that managers are not receiving the training needed to perform in their role. Only one third (34\%) of respondents said that stress was recognised as an issue in their workplace and just 31\% of respondents said that personal counselling services were available to them. Fewer still (27\%) said that their organisation has any formal process for handling grievances or concerns.

\textsuperscript{36}“Project on stress management” published in the CiteHR.com (2005)
relating to stress. His other findings include 86% of respondents considered that stress was a problem in their organisation. 36% rating it as being significantly so. 79% identified increased absence as the main symptom of stress in an employee. 53% regard stress as something an organisation can address proactively. 95% view supportive managers as the workplace factor most likely to help employees cope with stress. He concluded that having a comprehensive stress policy, which is part of the organisational fabric and develops with the organisation, can help reduce the likelihood of individuals experiencing occupational stress, improve productivity levels and so benefit the bottom line.

Dr. Parul Rishi, he conducted the study relating to stress auditing of forest officers and field forest staff involved in different working divisions of Madhya Pradesh Forest department with the objective of promoting a more conducive atmosphere for forest management with the association of healthy and dedicated forest personnel. The salient findings of the study was overall, both forest officers and field staff were experiencing stress of varying nature and degree. Forest officers were experiencing more stress because of group and political pressures, work pressures, motivational problems and resource limitations respectively. However, personal and familial stressors were not varying crucial for them. Field staff were experiencing more stress because of resource limitations, motivational problems, group and political pressures and personally familial stressors respectively. However, the least important stressor was work pressure and departmental pressure. He asserted that the study has implications for HRD section of forest department for providing their personnel, adequate opportunity for training in stress management and other developmental

37 “Stress auditing of forest personnel” conducted in different working divisions of Madhya Pradesh Forest department (2008)
opportunities. They should also take care of different types of stressors existing at different levels of forestry sector, so that a conducive working atmosphere for forest management could be generated along with association of healthy and dedicated forest personnel. It will further result in individual and organisational effectiveness. Regular stress auditing of forest personnel will be a very useful OD intervention in this regard.

Manju Mehta, in his study he found that the significant stress factors (stressors) experienced by Indian expedition members during voyage and stay in Antarctic continent and to determine the impact of stressors on social behaviour.

Effect of stress on social behaviour. In the study Different individual responses were observed during stressful situations. The most common negative behaviours were criticising each other, nagging, passing negative comments, taunting, blaming, crying, withdrawing and in few situations violent behaviour after drinking were observed. However, majority of the expedition members manifested positive behaviours e.g. cooperation, helping others, providing social support, organizing group activities to channelize anxiety. It is found that 60% of the wintering members had high enthusiasm, achievement motivation, competition, 40% were high on leadership. Though tension level was low for almost all the expedition members but self control and maturity was also low in 65% of the members. Sensitiveness, getting emotionally upset was low in 12 expedition members. Symptoms like insomnia, irritability, headache, migraines, anxiety and depression was reported. The post Antarctic evaluation carried out by us for the last three years has also suggested difficulties in work, communication,

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physiological and psychological problems. There have been instances of excessive drinking of alcohol, smoking, interpersonal conflicts, physical fights, anxiety and depression.

Some members become sensitive to trivial issues like celebration of birthdays, personal comments, food and work management. Conflicts and differences between scientific and army groups were observed. The few persons who had low coping skills were repeatedly manifesting negative behaviours. These problems in coping were being observed in both wintering and summer expedition members. Fifteen wintering over members had developed rashes on various parts of the body, which can be physical manifestation of stress. Boredom/fatigue, reduced motivation to work-, impaired memory and concentration were also reported by winter-over expedition members. Five members had reported disturbed dreams. These were related to not being able to do work according to their plans, and some were related to their family. Finally the author concluded that though various stresses are encountered by the members during the expedition, the responses are different due to individual personality and coping ability. With proper screening and psychological preparation of individuals these problems can be minimized. This will enhance adjustment and productivity of the expedition members.

K. S. Rajeswari and R. N. Anantharaman\textsuperscript{39} they investigated sources of negative pressure among software professionals, from the perspective of the software development process. The results indicate that stress resulted from fear of obsolescence and individual team interactions accounted maximum.

\textsuperscript{39} Development of an instrument to measure stress among software professionals: factor analytic study, Conference on Computer Personnel research, Philadelphia, PA, USA — April 10 - 12, 2003.
K. Chandraiah, et al.\textsuperscript{40}, in their study they found that job becomes less satisfying under excessive stress and their expected intrinsic and extrinsic needs are not fulfilled. They further found that age plays a vital role to test the correlation between occupational stress and job satisfaction level and suggested that senior level officers have a decreased stress level and increased satisfaction as compared to the middle level officers.

A.K. Sharma, et al.\textsuperscript{41}, he found more on visual stress and musculoskeletal symptoms, initially being mild and temporary and later with increasing years assuming more intense and permanent nature. It also found that computer related morbidity had become an important occupational health problem and of great concern. It suggested an immediate need for the concerned authorities to collaborate and enforce suitable preventive measures.

Kulkarni GK.\textsuperscript{42} in an article said that rapid change of the modern working life is associated with increasing demands of learning new skills, need to adopt to new types of work, pressure of higher productivity and quality of work, time pressure and hectic jobs are increasing stress among the workforce. Further he added that privatization and globalization has ignited mergers, acquisitions, and precarious employment has critically affected the domestic industry.

K.K. Jain, et al.\textsuperscript{43}, in their study they found the results of the study also confirmed the assumption that high age group managers as well as high age group engineers were equally satisfied with their jobs and the study revealed

\textsuperscript{40} Occupational Stress And Job Satisfaction Among Managers, Indian Journal Of Occupational And Environmental Medicine Vol. 7, No. 2, May-August 2003.
\textsuperscript{41} Computer Related Health Problems among Information Technology Professionals in Delhi, Indian Journal of Community Medicine, January 2006.
\textsuperscript{42} Burnout published in Indian Journal of Occupational and Environmental Medicine, 2006
\textsuperscript{43} Job Satisfaction as Related to Organizational Climate and Occupational Stress: A Case Study of Indian Oil, International Review of Business, 2007.
the same findings when low age group managers and low age group engineers were compared on their job satisfaction level.

R Lakshminarayanan\textsuperscript{44} “in his study he concluded that every person has a working life-time/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.

Daisy Chauhan\textsuperscript{45} he concluded that it is a fact 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.

\textsuperscript{44} An Overview Of Strategic Planning To Combat Occupational Stress – Need Of The Hour In The Present Indian Context”, National Institute of Virology, Indian Council of Medical Research, Pune, Maharashtra, 2006.
The author 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.

Upadhyay, G.R. and Havalappanavar, N.B.⁴⁶ in their study, they compared the level of stress among widows and widowers to that among families where both parents are alive. Stress among 77 single parents (58 widows and 19 widowers) was compared with that of 77 families (matched group) where both the father and the mother were alive. Results showed that single parents differed significantly regarding total stress and in all four areas of stress (care, emotional, social and financial stress). Stress was high in emotional and social areas compared to care and financial stress. Widows and widowers showed similar care stress. They differed significantly in their social, financial, emotional and total stress. Single parent families of mentally retarded children experience higher levels of stress (total and in all areas) compared to such families where both

parents are alive. Total, social, emotional and financial stresses, were higher than the care stress among widows compared to widowers.

Latha KS, DHRL, et al. 47 They aimed to assess the nature of stress, social support systems and coping styles among adolescents. 100 students in Pre University College (II year) of both genders in the age range of 16-19 years were assessed with the Adolescent Stress Scale, a semi-structured interview to elicit social support, and a self-report coping scale. The main sources of stress in both genders were getting up early in the morning, pressure to study, having to concentrate for too long during college hours, not having enough money to buy things, and long college hours. Prayer was the main coping strategy used by both genders. Males had larger social network than females. They Concluded that the Schools/colleges should provide opportunities to work through the stresses related to college and studies by instituting specialized programmes.

Geeta S. and Vijayalaxmi A. 48 An attempt was made by them to find out the impact of emotional maturity of adolescents on their stress and self-confidence. Sample of the study consists of 105 adolescents studying in XI and XII class at Dharwad city Karnataka State, India. The findings revealed that the adolescents with high emotional maturity have significantly high stress (t=10.44; p< 0.001) and self-confidence (t=-2.92; p< 0.01) when compared to those with low emotional maturity. Adolescents with more number of siblings have shown significantly higher level of self-confidence (t = 2.96; p< 0.01) than their counter parts. It is also found that educational level of father has significantly influenced stress of their adolescent children (F= 5.303; p< 0.01). Adolescent boys tend to

47 “Patterns of Stress, Coping Styles and Social Supports among Adolescents” Journal of Indian Association of Child Adolescents Mental Health; 3(1): 5-10, 2006.
have significantly higher stress than girls ($t=1.72$) and girls tend to have significantly high self confidence ($t=1.83$) World Socialist Web Site (WSWS), news and analysis study documents exploitation in Indian call centre (by Jake Skeers, 23rd November 2005). Work force at call centres are under constant stress because of their work load, competitive presser and surveillance staff in this sector reported health problems such as nervousness, chronic fatigue, bodyache, insomnia, nausea and anxiety, restlessness and depression due to odd working hours and stress.

Richa Darshan 49 In his study an attempt was made to analyze the effect of stress in women working at call centres at Indore and problems faced by them. The attempts are also made to understand the various ways in which they try to eliminate stress from their life. The study was mainly at exploratory level and focused on issues such as age, education, motivation, commitment and decision making power and health of those at call centre. The major findings of the study include, the first issue relates to balancing of family and social life for women in call centres. As they work in night shifts and also odd hours of the day, they are unable to spend sufficient leisure time with family members. As a result, the contact between the family members breaks up. The second issue is related to the stress level of women in call centres. The cause being monotony of work and dealing with abusive clients, which leads them to overreact to situations. The final issue identifies the poor work environment. The major problem related to sexual harassment and offensive behavior in work place. The author concluded that it is desirable to employ HR professionals with knowledge of human psychology in call centres. They should look for counselors to refer

employee's problems; they actually do not retain them. Young women in call centres between 18 to 21 years should be guided on physical and mental coordination to cope with a job that requires hyper-alert efficiency. Because of the sexual stigma associated with the job, it doesn't bring status to women in the society. Establishing an equitable and gender safe work culture and highlighting the respectability of call centres creates pleasure in the job and increases the motivation for women in call centres.

K. Chandraiah, S.C.\textsuperscript{50} his study was planned to investigate 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 (46-55years). The study also found that the age found to be negatively correlated with occupational stress and positively with job satisfaction.

The article "Business impact of employee stress" published in the financial express (November 14, 2005). In the article it was observed that the business impact of employee stress is now an acknowledged factor. Studies in America have proved that the annual cost of employee stress in terms of loss to productivity is more than a staggering $300 billion. Unmanaged stress has a debilitating impact on the organisation, the consequences vary from loss of individual productivity to increased absenteeism to rise in employee attrition. Team morale and productivity is also adversely affected. But is it possible to create a stress-free workplace? Probably not, it is indeed an integral part of

\textsuperscript{50}“Occupational Stress and Job Satisfaction among Managers” Indian Journal of Occupational and Environmental Medicine, Vol.7, No.1, August 2003.
workers’ personal and professional life, but the solution lies in creating an environment that reduces its impact. Stressful working conditions have a direct negative impact on the mental and physical well being of the workforce. A disgruntled workforce obviously under-performs and under-delivers, leading to an impact on the bottom-line. "In a more precautionary sense, unmanaged stress can be very infectious in large-sized organisations with workforces that are inhabited together. As a nation, we have spent the last two decades trying to eradicate cohesion of employees in a formal context (unions, associations) in the workplace from disrupting business. Unfortunately, such scenarios are completely fuelled by intangible conditions like unmanaged stress.

In addition, a company can easily suffer external image damage from being perceived as a hot bed of a stressful work environment, limiting its talent acquisition strategies, among other things," adds Advani. Stress undermines an employee's ability to think clearly, to work well with others and to perform his or her best. Seth Appel, Director, Talent Transformation Group, OfficeTiger, focusses on the obvious... consequences: poor decision-making, absenteeism, burn-out, attrition, unnecessary and wasteful inter-personal conflict. Calculating the business cost of employee stress has led to many research and studies being conducted globally. Eileen Sweeney, Senior Vice-president, Global HR, Lionbridge Technologies, lists the key indicators: • Absenteeism • Health costs • Attrition • Lowered productivity and increased costs. Appeal advises that one way to measure the cost of stress is to make a measured judgment based on employee exit interviews, on what percentage of attrition is due to stress. "When the cost to recruit, train and develop a new employee is accounted for, we can arrive at a general cost that the company is incurring due to stress.
Unfortunately, it is very difficult to measure the other less tangible by-products of stress. Managers who engage in needless bickering instead of working together, employees who return home and spend their free time worrying about work and return the following day tired instead of energized. Also the team members who are too anxious to speak openly at a meeting and therefore deprive the company of their good ideas. All of these are unwanted and wasteful by-products of stress that are hard to quantify." It can also be measured in terms of productivity gains or losses and hence resulting in enhanced revenues.

"A correlation can be seen in the roles vis-a-vis stress, specially in the IT and BPO sectors where in typical measurements like line of code/day or average call handling time, number of calls taken, etc. have a direct bearing on the stress levels of employees," says Madan Padaki, Co-founder and Director, Business Development, MeriTrac Services. It is believed that one should work at preventing stress than managing it. Interestingly most experts seem divided over the fact. Aiming to 'prevent employee stress' is not a realistic goal, asserts Appel, adding that it is also, arguably, not even a desired goal. He explains why, "Modern psychology often makes the mistake trying to create a stress- and worry-free world.

S Subramanian,51 he attempts to explore the status of mental health and occupational stress with respect to 2 categories of patients: Those who are suffering from cardiac problems and those suffering from noncardiac health problems. Occupational Stress Questionnaire and Mental Health Questionnaire were administered to both cardiac and noncardiac patients. The cardiac group consisted of 40 patients who were being treated at the cardiology department of a

reputed hospital, and noncardiac group (40 patients) consisted of outpatients of the same hospital being treated for noncardiac problems like knee pain, headache, etc. Responses to these self-reported questionnaires were subjected to statistical analysis to find out the difference between cardiac and noncardiac groups. The results revealed that cardiac patients tend to have lower levels of mental health than noncardiac patients. Similarly, cardiac patients were reported to have higher levels of stress due to role ambiguity, powerlessness, intrinsic impoverishment and unprofitability.

R.P. Vempati\textsuperscript{52}, the study evaluated the physiological changes of a yoga based stress management program for 26 a symptomatic, male, middle managers. The Occupational Stress index (OSI) and autonomic parameters were measured. Data of subjects with OSI greater or less than the median were analyzed separately. The ‘t’ test for paired data was used for pre-post comparisons. The whole group (n=26) showed a significant decrease in breath rate (p<.005) after the two day program, with no other changes. Subjects with OSI more than median (n = 13) showed a significant decrease in breath rate (p<.01), in the power of the low frequency component of the heart rate variability spectrum (p<.05), and in the low frequency: high frequency ratio (LF/ HF) (p<.05) and an increase in the high frequency component (p<.05) after the program, with no changes in the subjects with OSI less than the median.

Sujatha Muthanna\textsuperscript{53}, the study looked at top level managers experiencing high occupational stress from different departments and age groups and having different levels of Anxiety, Peer relations and Personality. The results were

\textsuperscript{52} Baseline Occupational Stress Levels And Physiological Responses: A Two Day Stress Management Programme, Vivekananda Kendra Yoga Research Foundation, Bangalore, India, 2010.
in turn mapped with organizational requirements as a whole and suggestions were made about the ways in which organizations could be made more effective and efficient to work in.

Mahtab Alam\textsuperscript{54}, he examined the level of stress among police personal and their coping strategies in the state of Gujarat. Various symptoms of stress includes, family problem either it’s a matter of divorce, Mental Health problem & Committing suicides or organizational which mainly focuses on workload, Target achievement, Attitude and Behavior among internal staff and societal among police. This study also highlights some points about what to do and what not to do when especially police officers’ feels a strong stress on him.

A survey of the various studies on stress management reveals that research study on the relationship between perceived and occupational stress with job satisfaction and subjective well being of employees in BHEL, Trichy is not yet attempted. The present study “An Investigation into the relationship between perceived and occupational stress with job satisfaction and subjective well being of employees in BHEL, Trichy” attempts to fill the research gap. The study focuses mainly on the relationship between occupational stress and perceived stress with job satisfaction and subjective well being with special reference to BHEL employees in Trichirappalli, Tamilnad.. The findings of this study not only throw light on level of stress and coping strategies adopted by the BHEL. It may also help scholars and researchers to develop new ideas, techniques and methods for coping with stress and to improve the employees’ well-being.

\textsuperscript{54} An Analytical Study of Job Stress among Selected Police Personnel in the State of Gujarat with Special Reference to Vadodara City. AIMS International Conference on Value-based Management, August 11-13, 2010