

Work Place Stress and Employee Performance - An Empirical Study

E.Manohar

Abstract

Stress has become part of everybody's life in the globally competitive world. The present day organisations' culture in the age of globalisation, are paying lip service to stress reduction, but increasing intense pressure on individuals to increase productivity. Stress can be brought about by pressure at home and at work. The stress at the work place results due to mismatch between the demands and pressure on the person, on the one hand, and their knowledge and abilities, on the other. It challenges their capability to cope up with the work. This includes not only situations where the pressures of work exceed the worker's ability to cope but also where the worker's knowledge and abilities are not sufficiently utilised and that is a problem for them. The considerable amount of stress would lead to increase the performance but when the stress level increases, it leads to decrease in the performance. There will be number of factors contributing to stress. The organisation needs to assess the adversely impacting factors and develop the mechanism to deal with work place stress. The employers have to treat stress as a serious issue and have concern towards the employees to overcome the stress. Employers cannot usually protect workers from stress arising outside of work, but they can protect them from stress that arises through work in the organisation. Stress at work can be real problem to the organisation as well as for its workers. This paper identifies the contributing factors of stress at the work place, effect of stress on performance and strategies to overcome the stress at the work place to improve the performance.

Keywords: Work Place Stress, Work Environment, Workers Ability and Performance

Introduction

The nature of work is changing at whirlwind speed. Perhaps now more than ever before, job stress poses a threat to the health of workers and, in turn, to the health of the organisation. Work itself can have a positive effect on human mental and physical health. However, work related stress generated through certain adverse working conditions can have negative effects on individual's health. Stress-related disorders involve enormous human suffering and huge costs to society in terms of mental strain, stress related diseases, such as depression and heart disease, and absenteeism. Long term exposure to job stress has been linked to an increased risk of musculoskeletal disorders and depress as well as syndromes such as burnout, and many contribute to a range of other debilitating diseases. Stressful working conditions may also interfere with an employee's ability to work safely, contribution to work injuries and illness.

Globalisation or the process of global economic change is largely and intensification of the processes of interaction involving travel, migration and dissemination of knowledge that have shaped the progress of the world over millennia (Sen A.K, 2007). Globalisation affects individuals, families and the society. It has the potential to promote development and increase the wealth of the community by improving the national economy. This can have a positive impact as it may increase the income of employees, facilitate access to education and training, and improve working conditions, which in turn will have a positive effect on the mental health or employees. On the other hand, globalisation also brings with it other developments which have less positive impact on employment and working conditions and which are structural in nature, such as organisational restricting in terms of substitution of the labour force with machinery causing increased competition and feelings of job insecurity, increased

job instability and unemployment through mergers, downsizing and outsourcing.

Stress : Stress is the body's reaction to a change that requires a physical, mental or emotional adjustment or response. Stress can come from any situation or thought that makes you feel frustrated, angry, nervous, or anxious. Stress is caused by an existing stress-causing factor or 'stressor.' Canadian physician Hans Selye (1907-1982) in his book *the stress of life* 1956 popularized the idea of stress. Selye (1956) defines stress as a nonspecific response of the body to any sort of demand made on it.

Review of Literature

Stress arises when the person perceives that he or she cannot adequately cope with the demands being made on them or with threats to their well-being (Lazarus, 1966, 1976; Cox, 1990), when coping is of importance to them (Sells, 1970; Cox, 1978) and when they are anxious or depressed about it (Cox & Ferguson, 1991). The experience of stress is therefore defined by, first, the person's realisation that they are having difficulty coping with demands and threats to their well-being, and, second, that coping is important and the difficulty in coping worries or depresses them. Work-related stress is a pattern of physiological, emotional, cognitive and behavioural reactions to some extremely taxing aspects of work content, work organization and work environment. When people experience work-related stress, they often feel tense and distressed and feel they cannot cope. Due to globalisation and changes in the nature of work, people in developing countries have to deal with increasing work-related stress. In industrialized countries people are becoming more familiar with what work-related stress is and how to manage it (e.g. WHO, 2003), however, in developing countries, this may not yet be the case. There are various approaches which denote the stress in clear form.

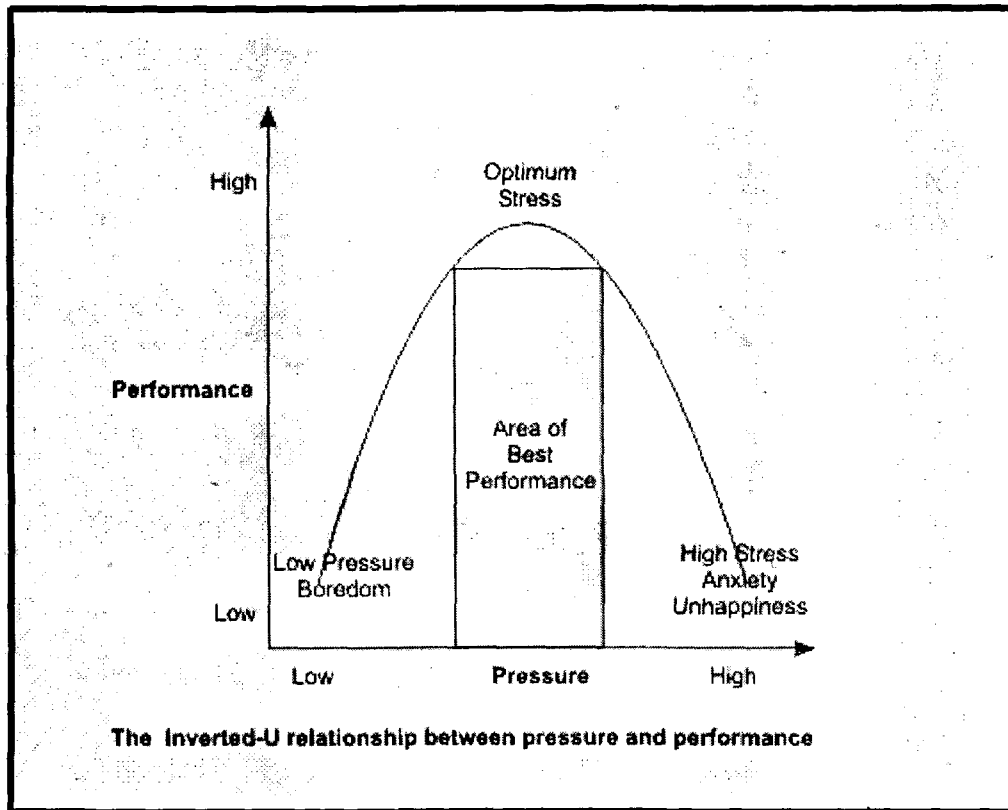
The engineering approach has treated stress as a stimulus characteristic of the person's environment, usually conceived in terms of the load or level of demand placed on the individual, or some aversive (threatening) or noxious element of that environment

(Cox & Mackay, 1981; Fletcher, 1988). Occupational stress is treated as a property of the work environment, and usually as an objectively measurable aspect of that environment. The physiological approach to the definition and study of stress received its initial impetus from the work of Selye (1950, 1956). He defined stress as "a state manifested by a specific syndrome which consists of all the non-specific changes within the biologic system" that occur when challenged by aversive or noxious stimuli. Stress is treated as a generalised and nonspecific physiological response syndrome. Scheuch (1996) considers stress as one of the psycho physiological activities of human beings as they attempt to adapt to changes in the internal and external milieu. This activity relates to the quantity and quality of the relationship between demands and individual somatic, psychological and social capacities or resources in a specific material and social environment.

The psychological approach to the definition and study of stress conceptualises it in terms of the dynamic interaction between the person and their work environment. When studied, it is either inferred from the existence of problematic person-environment interactions or measured in terms of the cognitive processes and emotional reactions which underpin those interactions. This has been termed the 'psychological approach'. The development of psychological models has been, to some extent, an attempt to overcome the criticisms leveled at the earlier approaches.

Research since Yerkes and Dodson has supported the inverted-U relationship between stress and performance. Furthermore, Srivastava and Krishna (1991) find evidence that an inverted-U relationship does exist for job performance in the industrial context. Selye (1975) and McGrath (1976) also suggest an inverted-U relationship between stress and performance.

Figure 1 : The relationship between Stress and Performance



The individual performance on a given task will be lower at high and low levels of stress and optimal at moderate levels of stress. At moderate levels of stress, performance is likely to be improved by the presence of enough stimulation to keep the individual vigilant and alert, but not enough to divert or absorb his energy and focus. At low levels of stress, in contrast, activation and alertness may be too low to foster effective performance, while at high levels of stress; arousal is too high to be conducive to task performance.

The common effects of Stress

- i) Physical symptoms
 - Headache
 - Heart disease
 - High blood pressure
- ii) Psychological symptoms
 - Sleep disturbance
 - Depression
 - Decrease in job satisfaction

iii) Behavioural symptoms

- Productivity
- Absenteeism
- Turnover
- Accidents

Objectives

The primary objective of the study is to examine the work place stress at NTPC organisation and its impact on employee performance. The following are the objectives of the study.

1. To identify the factors contributing to work place stress
2. To know the impact of work place stress on employee performance
3. To suggest the strategies to overcome stress and improve the work relations and employee performance.

Hypotheses

- Work related stress factors affects the performance of employees.

- Work-related stress is a health and safety issue as well as an important factor for improved performance.

Research Methodology

The present study intends to examine the factors contributing to work place stress and their impact on employee performance. For the purpose of the study NTPC, Ramagundam, the public sector undertaking operating at Karimnagar District of Andhra Pradesh state is selected. This study is based on both the primary and secondary data. Primary data is collected from executives and non executives with the sample size of 90 each category. The sample is selected on the basis of purposive random sampling method. A structured questionnaire was administered to both the executives and non executives of employees. The sample consists of 6.4% of executives and 6.2% of non executives.

Findings of the Study: The study has been conducted in NTPC to find out the opinion of employees by administering the structured questionnaire. The main findings of the study are grouped in to 6 key factors.

Work place stress: It is observed during the research period at the plant and had informal interaction with the employees which denotes that stress is existing in the organization. The executive and non executive employees when they are working in the plant, they have stress due to sound pollution, dust, hot condition, constant repairs of the machineries, trip of the units in generating the power are causing stress to both the category of employees. The power generation takes place during three shifts of NTPC organization and employees who work during night shifts feel more stress in comparison with other shifts.

Under stimulating and Meaningless Task: The second factor contributing to stress has been found in the organization through the opinion of respondents is that few employees were with routine work for which stimulation or encouragement is lacking. In other cases, the job are not given based on the education qualification or specialization.

Problems due to poor relationships: This is the factor

found during the research in the NTPC organization. It is observed that the work relations in the organization are not up to the mark. The biased opinion of officials in performance appraisal is causing poor relations. When the employees are not given promotion based on their performance and experience, they feel stress. In some situations, the sincere employees have become victims because of the promotion policy and biased evaluation of department head as expressed by the employees during the informal interaction. The regional feeling is another parameter to have poor relations in the organization.

Working under time pressure: Working in the power generating unit is a difficult task as the power trips will take constantly. The personnel of TQM department and the engineers who are working in the organization need to observe the systems at regular intervals and record the generation status. The employees were responding that they do not find free time while working in the organization.

Strict and inflexible working schedules: The majority of the non executives opined that in the organization inflexible working schedules and shift system is being maintained. The employees are assigned the task to working during three shifts i.e.: morning, afternoon and each shift for 8 hours. In certain situations the employees were asked to work for few more hours due to non availability of other shift employees.

Lack of participation in decision making: The micro level study conducted in the organization substantiates the main study that the non executives were not being considered in all the decision making situations. In any organization, the proper working climate can be developed when the employees' opinion is considered in decision making.

The research analysis has been made by correlating the job, environment, experience and work place stress. The research revealed that as the experience increase, the stress level shows the decline trend both in executives and in non executives. It is found that the stress exists in the organization due to under

15 and 21 related to work under time pressure, 10 and 16 related to strict and inflexible working schedules and 25 and 26 related to participation of employees in decision making. The key factors are as follows:

1. Stress at work place due to work environment
2. Under stimulating and meaningless tasks
3. Problems due to poor work relations
4. Working under time pressure
5. Strict and inflexible working schedules
6. Lack of participation in decision making.

For the purpose of analysis the following statistical tools have been used in the study.

1. Varimax rotation & Correlation matrix

2. Factor score coefficient
3. Eigene values
4. Wilks Lambda

The stress factors analysis has been done with the rotated factor loading and communalities with varimax rotation. In these two categories loading, communality is the percentage in variation. The questions for the study have been grouped into 6 categories of factors and they have been analysed with rotated factor loadings and communalities with varimax rotation. For the purpose of conducting the study 36 questions have been prepared to administer them to the respondents in the organization.

Table 1 : Rotated Factor Loadings and Communalities

Variable	Stress due to work environment Factor 1	Under stimulation tasks Factor 2	Poor work relations Factor 3	Work under time pressure Factor 4	Strict and inflexible work schedules Factor 5	Lack of participation in decision making Factor 6	Communality
Q.No 1	0.281	-0.25	0.0148	0.590	0.160	0.254	0.480
Q.No 2	0.015	0.081	0.686	-0.302	-0.372	0.460	0.524
Q.No 4	0.580	0.181	0.149	-0.095	-0.166	0.504	0.510
Q.No 5	0.496	-0.031	0.654	0.094	0.149	0.496	0.676
Q.No 6	0.286	0.223	0.284	0.641	-0.183	0.596	0.633
Q.No 8	0.199	0.686	-0.121	0.612	0.253	0.469	0.645
Q.No 10	0.125	0.654	0.195	-0.020	0.538	0.396	0.645
Q.No 11	0.610	0.032	-0.065	0.279	-0.360	0.489	0.544
Q.No 12	-0.162	0.015	0.541	-0.641	0.258	0.610	0.629
Q.No 13	-0.216	0.490	0.391	0.355	-0.019	0.496	0.516
Q.No 15	-0.169	0.541	0.191	-0.436	0.034	0.504	0.506
Q.No 16	0.087	-0.038	0.331	0.126	0.459	0.322	0.644
Q.No 21	-0.246	0.506	0.089	0.489	0.068	0.486	0.590
Q.No 22	0.098	-0.014	0.081	0.590	0.620	0.396	0.494
Q.No 25	-0.229	-0.031	-0.031	-0.248	-0.104	0.649	0.556
Q.No 26	-0.329	-0.028	-0.036	-0.342	-0.109	0.626	0.584

Variance 1.8240 1.7231 1.6516 1.5231 1.1932 1.18658.3076
 % Var 0.142 0.128 0.132 0.128 0.096 0.1420.681

The research results reveals that in factor 1 questions 4 and 11 indicates stress at work place. According to Varimax rotation the figures specifies that stress is existing at work place. In factor 1 the varimax rotation results are 0.580 and 0.610 states that stress is existing due to poor work environment, factor 2 results are 0.686, 0.654 and 0.541 indicates that stress is being caused in the organization due to under stimulation

and meaningless tasks, factor 3 results are 0.686, 0.654 and 0.541 points the stress due to poor work relations, factor 4 results 0.641, 0.612 and 0.590 states that stress is arising due to working under time pressure, factor 5 results 0.538 and 0.620 states that stress is existing due to strict and inflexible working conditions and factor 6 results 0.649 and 0.626 indicates that employees are feeling stress as they are

not allowed to participate in decision making in the organizational tasks. The stress levels are more to the executives and non executives of the organization in various tasks they perform.

Table 2 : Eigen Values

Function	Eigen value	% of variance	Cumulative %	Canonical Correlation
1	0.192	100.0	100.0	0.296

First 1 canonical discriminant functions were used in the analysis

The Eigen value 0.192 proves that stress factors are affecting the performance of the employees in the organization. Though the intensity of factors in various situations is more or less but they are affecting the functioning of the organization.

In order to analyse the predictors of stress on employee performance, Discriminant analysis is used. The Wilks' Lambda value of 0.494 from Table 3 indicates a better discrimination power of the model and also shows the significance at 95% confidence level.

Table 3 : Wilks Lambda

Test of Function (s)	Wilks' Lambda	Chi-square	df	Sig
1	0.494	12.496	6	0.05

Table 4 : Standardized Canonical Discriminant Function Coefficients

	Function
	1
Stress at Work	-0.195
Under Stimulating and Meaningless tasks	0.489
Problems due to Poor Relationships	0.345
Working under time pressure	-0.439
Strict and inflexible working schedules	0.358
Lack of participation in decision making	0.385

From table 4, it can be inferred that the,

1. Factors "Under stimulating and meaningless tasks, Working under time pressure and lack participation by employees in decision making" are scoring more in Standardized Canonical Discriminant Function Coefficients matrices followed by Strict and inflexible working schedules and Problems due to Poor Relationships as other key factors for the stress.

2. Hence it can be concluded that "under stimulating and meaningless tasks, Working under time pressure and lack participation by employees in decision making" are the important stress causing factors which leads to low level performance. The authorities concerned should initiate steps to improve the employer employee relationship.

The analysis has been done by pooling correlations between discriminating variables and standardized canonical discriminant functions variables within the groups ordered by absolute size of correlation within function. The standardised canonical discriminant function coefficients, structure matrix and canonical discriminant function coefficients value is <0.05 and all the stated factors are affecting the employees' performance.

Later a correlation matrix is constructed with the help of minitab software to find out correlations among factors and demographic parameters like age, experience and family size. The output is shown in Table 5. The correlations whose p-values are less than 0.05 are only considered for analysis. Following points can be observed from that matrix.

Table 5 : Correlation

Correlations: Age, Exp, Stress at work place, Diss at mgmt, prob due poor relations, time pressures and lack of participation in decision making							
Exp	0.686						
	-0.136						
Fam size	-0.033	-0.088					
	0.754	0.410					
Work Env.	0.769	0.087					
	0.582	0.073	0.416				
Tasks	-0.253	0.621	-0.120	0.014			
	0.016	0.021	0.261	0.895			
PoorRlsns	0.684	-0.309	0.155	0.275	0.130		
	0.022	0.003	0.146	0.009	0.222		
StrctSchd	-0.139	-0.213	0.129	-0.023	0.273	0.156	
	0.191	0.044	0.224	0.827	0.009	0.143	
Lackofptc	-0.100	-0.057	0.006	0.762	0.050	-0.016	0.008
	0.348	0.594	0.953	0.214	0.637	0.880	0.943

In order to find out the correlation among various variables like age and stress, experience and stress reduction, experience and commitment towards organization, employee involvement and consensus in decision making, the correlation matrix has been developed. From the correlation table of research outcome, few inferences are mentioned:

1. Table 7 states that, there is strong positive correlation (0.686) between age and experience.
2. As the experience is increasing stress at work place is reducing. (neg correlation coeff. of -0.136). But correlation is not significant.
3. As age and experience are increasing Problems due to poor work relations is also coming down and there is positive correlation between stress at work place and Problems due

to poor work relations.

4. The value -0.008 indicates that there is negative correlation between age, experience and lack of participation in decision making.

The study indicates that stress is existing in the organization due to under stimulating and meaningless tasks, working under time pressure, poor work relations between heads of the departments and employees as well as executives and non executives and lack of participation in decision making. The major factor for the stress seems to be behavior pattern of employees.

Strategies to overcome stress and improve the employee performance:

- The tasks which are assigned to the workers need to be assessed based on the competency of the employees. The workers need to have

clear understanding about the work and its significance. The constant counseling, mentoring and motivating process would make the employees work with conviction and commitment.

- The healthy work climate is to be created in the organization. The management need to recognize and reward the employees constantly so that cordial relations can be developed. The healthy work relations would lead to reduce the stress at the work place.
- The work schedules are to be maintained according to the convenience of the employees. Depending upon the needs and situations of the employees, the work schedules are to be altered.
- The employees are to be allowed to participate in the decision making as they are part of the organization. This process would give them psychological satisfaction and self esteem.

Conclusion

The work place stress is the key factor to be considered as it affects the performance of the employees in the organization. Work stress is a major concern, not only for the employees involved but also for organizations and society as a whole. The work place stress exists due to designing the meaningless tasks, unpleasant tasks, aversive tasks, working under time pressure, inflexible working schedules, lack of participation in decision making and other such key factors. From the study it is concluded that the work place stress is affecting the employee performance. If all the stress causing factors are reviewed and taken the appropriate decisions, the amount of stress can be reduced. Though other factors are causing for the work stress but the intensity of under stimulating and meaningless tasks, poor work relations and lack of non executive's participation in decision making are more for work related stress. The organizations need to focus on such factors and address the problems arising due to work place stress. The work place cordial relations suitable work climate can motivate the employees to improve

their performance.

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About Author :

E. Manohar is a Faculty in Dept of Commerce and Management at Satavahana University, Kalimnagar (A.P). The author can be reached at manohar_arise5@yahoo.co.in