

OCCUPATIONAL STRESS AND JOB PERFORMANCE

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ABSTRACT

Objective: The present study was conducted to assess the levels of stress among five different departments of a Multinational Corporation and the effect of stress on employee performance.

Design: Cross sectional Survey.

Place and duration of study: Workplace of a multinational organization factory located near Faisalabad from March 2005 to July 2005.

Subjects and Methods: Sample consisted of 65 employees working in 5 different Departments of a multinational organization. Occupational stress scale (OSS) consisting of nine factors contributing to stress was used to assess stress level of workers and its effect on performance was measured by the job performance rating scale. One-way Analysis of Variance (ANOVA) was applied to see the difference in stress level of workers among five different departments and correlation analysis was done to see the relationship of stress and performance.

Results: Results showed that employees in the Human Resource, Productions, Engineering & Refrigeration, Stores and Electrical & Instrument Departments had moderate levels of stress due to work overload, co-workers and repetitive work. However there was significant negative correlation between workload and job performance (-0.286; $p < 0.05$). But there was no significant relationship between level of overall stress and job performance.

Conclusion: It was concluded that there was moderate level of stress with no significant difference in different departments however no affect of stress was found on job performance.

Key words: Occupational stress, Job performance, OSS.

INTRODUCTION

Stress results from an imbalance between demands and resources¹. Stressors intrinsic to the job include workload, poor physical conditions, low decision making latitude, role-based stress; associated with role conflict, role ambiguity and responsibility. At the same time the most obvious cause of stress at work, regardless of occupation, is sheer overload. Workers tend to underestimate the amount of overload they are being subjected to, and seem to feel as though it was their sole responsibility, thereby increasing the amount stress they are under².

Role ambiguity an additional source of stress may be present in the work place when an employee does not have adequate information in order to carry out the task; or does not understand or realize the expectations with that particular role. Stress arising from unclear goals and / or objectives can ultimately lead to job dissatisfactions, lack of self- confidence, feelings of futility, a lowered sense of self-esteem, depression, low motivation to work, increased blood pressure and pulse rate and intention to leave the job^{3, 4}.

Supervisors and managers can be major sources of stress to their subordinates². Previous research shows that poor leadership behaviors- such as when supervisors fail to be supportive of their employees or refuse to allow participation in decision making—can lead to stress. Evaluating employees for salary, promotion, or termination decisions; providing incentives and rewards; and managing their output on a daily basis can lead to stress for managers themselves. Managers are much more likely to report stress- related physical complaints than are employees such as accounts whose daily responsibilities do not include supervising others⁵.

Working conditions of work can create stress⁴. Dangerous tasks or work settings, toxic chemicals, high noise levels, dust, overcooling, unpleasant odours, and other

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stressful factors can lead to illness or disease. Assembly line work is associated with stress because it is repetitive, monotonous, noisy, and lacks challenge and control⁶. A study of 662 blue collar workers in the Netherlands found that the percentage of workers in factory jobs, farming, and highway transport dealing with physical stressors, such as excessive noise, is as high as 30%⁵.

A concept called the Yerkes- Dodson principle, which is applied to athletic performances, lends itself quite nicely to explaining the relationship between eustress, distress and health. When stress increases, moving from eustress to distress, performance and health decreases and there is greater risk of disease and illness. The optimal stress level is the midpoint, prior to where eustress turns into distress. Studies indicate that stress- related hormones in optimal doses actually improve physical performance and mental processing skills, like concentration, making workers more alert. Beyond the optimal level though all aspects of performance begin to decrease in efficiency⁷.

When there is no stress, job challenges are absent and performance tends to be low as stress increase, performance tends to increase. Eventually stress reaches a plateau that corresponds approximately with a person's top day to day performance capability. Finally if stress becomes too great performance begins to decline, because stress interferes with it. An employee loses the ability to cope and becomes unable to make decisions and erratic in behaviors⁸.

The severity of job stress depends on the magnitude of the demands, work under load, supervision, repetitive work, physical environment, co-workers, that are being made and the individual's sense of control or decision-making latitude he or she has in dealing with them. Scientific studies based on this model confirm that workers who perceive they are subjected to high demands but have little control is at increased risk for cardiovascular disease⁹. The present research seeks to identify the relationship between the occupational stress and job performance. This study further aims to examine the level of stress in different departments in one organization and its effect on the performance of the employees.

SUBJECTS AND METHODS

An ice cream factory of a multinational organization was selected for the study. The departments selected were, Human Resource department, electrical and chemical department, stores, engineering department and production department.

Workers of five different departments having different levels of job e.g. managers, executive managers, senior supervisors, supervisors, editors, machine operators, helpers, etc. served as a sample for the present study. Random sampling technique was used for the

selection of departments. After randomly selecting five departments of the organization, random sampling technique was applied for the selection of workers. Thirteen workers from each department were taken; so total sample of 65 employees were selected.

Demographic Questionnaire comprised of 10 questions and was constructed by the researchers. It included the information about gender, age, education, designation, name of the department, income range, marital status, family status, no. of departments and duration of the training.

Occupational Stress Scale:

Occupational Stress Scale (OSS) was developed having the reliability co-efficient 0.70. OSS assesses the level of stress a person has because of the job, its requirements and its environment. OSS takes the structure, requirements and conditions of the job and assesses how all these factors contribute to stress. The scale has 36 items. Four items measure each facet. The nine facets are work over load, under load, supervision, co-worker, physical conditions, monotony and boredom, work family conflict, career development and role conflict / ambiguity. High scores on the scale means high stress and vice versa.

Pilot study was conducted to finalize the tool by incorporating all the major suggestions. The irrelevant items were excluded from the scale. The researcher assured the employees about the full confidentiality of all information, which is obtained from them.

Job Performance rating Scale:

Rating scale of the job performance is a single statement item on which the supervisor rates the performance of the employee. Performance rating was the actual rating of the employees done by the senior human resource management according to their own criteria of the relative department.

The Hypotheses was analyzed by means of correlation and one-way ANOVA. The results are presented according to the formulated hypothesis. SPSS (Statistical Package for Social Sciences) version 10 for windows was used to analyze data.

RESULTS

Table 1 shows the mean values of factors that contributed to stress in different departments.

Workload, co-workers and repetitive work were identified as the major factors causing stress having mean values 19.3, 13.0, 12.4 respectively.

It was hypothesized that high level of stress has adverse effects on the employee's performance. Correlational analysis was carried out to examine the relationship between job stress and job performance. Results are given in table 1.

Table 1
Scores on nine factors related to stress in Occupational Stress Survey and Correlations of factors that contributing to stress and the performance.

Factor	Departments										Correl- ation with perform- ance
	Human Resource Management		Productions		Engineering & Refrigeration		Stores		Electrical & Instruments		
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	
Work Load	19.5	4.01	18.5	2.93	19.9	1.60	19.3	4.07	19.5	2.50	-0.286*
Work Under load	10.8	6.34	12.3	2.81	12.3	4.25	13.0	3.01	10.2	4.08	-0.090
Role Ambiguity & Conflict	10.2	2.94	8.9	1.25	10.0	2.44	9.2	2.80	10.4	3.52	.056
Supervision	7.3	3.40	9.3	3.77	9.8	4.94	8.6	4.48	9.3	4.49	.098
Career Development	8.6	3.27	9.3	3.70	9.9	4.60	8.5	3.77	10.8	4.35	.003
Physical Environment	10.5	2.90	10.4	3.99	11.3	3.85	10.2	4.58	11.6	5.85	-.110
Repetitive or meaningless job	13.2	3.67	13.9	3.83	10.5	3.40	12.3	3.44	12.2	5.40	.150
Work-family conflicts	10.8	2.37	11.4	3.71	10.5	4.44	12.0	2.61	12.3	3.75	-.027
Coworker	13.6	2.89	12.9	2.75	12.1	3.21	13.4	2.29	13.2	3.53	.206
Total	104.9	14.47	107.2	14.32	106.6	17.59	106.8	12.24	109.8	26.05	.001

Note *p<0.05, **p<0.01

The results did not support the hypothesis. The results indicated no significant relationship between level of stress and performance of the employee. The results are significant only on the workload factor that contributes to stress. The P-value on workload factor in table 1 shows a negative relationship with performance ($p < 0.05$; -0.286)

Correlation analysis was also carried out to examine the relationship between education and performance of the employees as the performance rating done by the HR executive was based on educational level of the employees. The results shown in table 2 indicated that there is strong positive correlation between education received by the employee and job performance of the employee.

One-way analysis of variance (ANOVA) was carried out to assess job stress in different departments of

Table 2
Correlations between education and job performance of the employees.

	Education	Performance
Educalton	1.00	-3.43**
Performance	-3.43**	1.00

*p<0.05 **p<0.01

the organization. The departments are Human Resource department, electrical and Instrument department, stores, engineering department and production department. It is obvious from the table 3 that there is no significant difference among 5 departments on stress level.

Table 3
One Way ANOVA of 5 Departments of a Multinational Organization Factory
and nine factors that contribute to stress

		Sum of squares	df	Mean Square	F	Sig.
TOTAL	<i>Between Groups</i>	163.754	4	40.938	132	.970
	<i>Within Groups</i>	18635.692	60	310.595		
	<i>Total</i>	18799.446	64			
Workload	<i>Between Groups</i>	13.692	4	3.423	.341	.849
	<i>Within Groups</i>	601.692	60	10.028		
	<i>Total</i>	615.385	64			
Under Load	<i>Between Groups</i>	72.769	4	18.192	1.398	.246
	<i>Within Groups</i>	780.769	60	13.013		
	<i>Total</i>	853.538	64			
Role Conflict	<i>Between Groups</i>	22.769	4	5.692	.778	.544
	<i>Within Groups</i>	438.769	60	7.313		
	<i>Total</i>	461.538	64			
Supervision	<i>Between Groups</i>	46.862	4	11.715	.646	.632
	<i>Within Groups</i>	1087.385	60	18.123		
	<i>Total</i>	1134.246	64			
Career Development	<i>Between Groups</i>	48.154	4	12.038	.762	.554
	<i>Within Groups</i>	948.000	60	15.800		
	<i>Total</i>	996.154	64			
Physical Environment	<i>Between Groups</i>	20.154	4	5.038	.267	.898
	<i>Within Groups</i>	1134.308	60	18.905		
	<i>Total</i>	1154.462	64			
Repetitive Work	<i>Between Groups</i>	84.523	4	21.131	1.305	.278
	<i>Within Groups</i>	971.538	60	16.192		
	<i>Total</i>	1056.062	64			
Work Family	<i>Between Groups</i>	29.015	4	7.254	.604	.661
	<i>Within Groups</i>	720.923	60	12.015		
	<i>Total</i>	749.938	64			
Co Worker	<i>Between Groups</i>	18.523	4	4.631	.525	.717
	<i>Within Groups</i>	528.923	60	8.815		
	<i>Total</i>	547.446	64			

DISCUSSION

This study investigated the effects of occupation stress on the job performance of the employees and level of stress in 5 different departments of the organization. Self-constructed questionnaire was administered to assess the level of stress and performance rating was used to find out the relationship between level of stress and job performance.

We found that although there was a different level of stress experienced by the employees working in 5 different departments but the results were not significant

indicating that there was almost same level of stress in 5 different departments. This may be because all departments have similar management and overall atmosphere of the work condition was friendly and workers supported each other. The organization seemed to have a very strong culture.

The second hypothesis was the effect of stress on the job performance and it was not supported because the results revealed that there was no significant effect of stress on the performance of the employees. These results are not consistent with the previous studies such

as by Abramis¹⁰ who found out the relationship of job stressors to job performance.

We found that the work overload was a major factor, which contributed to stress. Pressures to avoid errors or complete tasks in a limited time constitute (work overload), a demanding job is seen during the visit that only factor causes the stress as supported by a survey in the U.S.A by Margolis¹¹ found that quantitative overload was significantly related to number of stress symptoms and poor work motivation which is obviously affect the performance. Task demands were high and increase because it was a multinational target goal. Some of the employees were expected to do more work within the limited time because of the customer's demand.

The other factor that might be inducing stress in the employees at work place was repetitive work. In production department it was reported that the stress of repetitive work was relatively high than the engineering and refrigeration department.

Working conditions were another factor that contributed to stress and had the modest effects on stress. This may indicate the working conditions were conducive for workers and the employees found it easier to carry out their job. The effect of working conditions on stress was similar to that of the co-workers. Hawthorne Studies^{12,13} also found that unpleasant working conditions, the necessity to work fast, to expend a lot of physical effort and working excessive and inconvenient hours were related to poor performance and mental health. However these working conditions were not found in the present study.

Although supervision is found to be contributing to stress by Sorrentino¹⁴ in present study the findings were not consistent with this factor on the stress and performance. This may indicate that supervision was adequate and satisfactory for workers It can be concluded that there was no significant difference between the stress levels of workers among five different departments of the organization. Further it was also observed that the relationship between workers stress level and their performance was not significant. This study has demonstrated that in an organization with a structured environment and adequate support for workers, the routine job duties is not associated with the job stress, irrespective of the department in which worker is performing the duty.

There is a need for further research in this field, based on multiple organizations with a large a sample size. Factors such as hygiene, peer pressure, and personality should also be taken into account.

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