



A Study On Stress And Its Management In Information Technology Industry In India

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Abstract

The employees of various organizations, especially employees working in IT companies have to spend time under heavy pressure of conflicting demands and work situations. They perform managerial functions under very compelling situations. This leads to anxiety and stress. It is evident that challenges are posed by the changing business scenario, which forces upon the IT employees to perform their task under compelling situations. Information Technology professionals need to take responsibility for maintaining the necessary balance in their lives by addressing these workplace stressors. Once the stressors are identified by the individual, a commitment must be made to work on easing this stress. Generally Information Technology employees are found to have various causes of stress like, heavy workload and its concomitant time pressures and unrealistic deadlines; what must be accomplished on the job and what the manager would like the employees to accomplish; the general organizational political climate; and lack of feedback on job performance.

Keywords: Information Technology, Stress, Pressure, workplace, Workload, Job Performance.

Introduction

The employees of various organizations, especially employees working in IT companies have to spend time under heavy pressure of conflicting demands and work situations. They perform managerial functions under very compelling situations. This leads to anxiety and stress. It is evident that challenges are posed by the changing business scenario, which forces upon the IT employees to perform their task under compelling situations. Hence proper coping strategies have to be practiced to manage such stressful situations. Sam Bativa (1990), in his study found that Indian executives adopted various coping strategies like yoga, practicing good management, avoiding confrontation, developing trust in oneself, improving self image, maintaining better family relationships etc.

The Information Technology industry being an ever growing employment generating sector is a cause of concern for the organizations and government. They have to look into the physical, mental and social health of its employees. The EQ(Emotional Quotient) of the IT employees seems to be in trouble and needs to be addressed immediately. In spite of plum salaries, there have been several cases where there have been incidents like killing, drug abuse, alcoholism, frustration leading to family problems.

REVIEW OF LITERATURE

Stress is a major emotional problem in the modern world. Stress is becoming a global phenomenon affecting all categories of workers. Stress is generally considered as a negative and undesirable emotional element. Stress can be classified into three types- the negative, the positive and the neutral. Negative stress is distress. Anxiety, tension, worry, strain, fear, anger, hatred etc., are examples. This has to be de stressed. This type of stress causes confusion and exasperation. Positive stress is exciting and challenging. Emotions are experienced in challenging jobs, promotions, friendship, the prospect of meeting successfully an unexpected situation etc known as ousters, which is the opposite of distress

Nelson, Cooper and Jackson (1995), in a study of 397 employees of a regional match authority agency in Britain, which was changing from public to private ownership, showed how stressful such an upheaval and re-organization can be. Three levels of employees like, administrative, management and manual workers were studied. All groups displayed decline in job satisfaction and in measures of mental and physical health. Those affected most by the change were the manual workers, the group that could exercise the least control over the situation.

Manning and Jackson (1996), in a study involving 260 employees of a chemical company and a life insurance company in the United States found that stressful job events as measured by self-report inventory correlated positively with health care claims and costs. Employees who reported the greater amount of job stress cost their employees significantly more in health care benefits than employees who reported experiencing little stress on the job.

Mansell (2006), in study on recent changes in employment conditions have resulted in the increased exposure of workers to unfavorable job characteristics and to consequential increases in adverse individual and organizational health outcomes. The authors evaluated the steps undertaken by one proactive employer to reduce these adverse outcomes. Staff retention and employee satisfaction significantly improved over time and these increases were attributable to workplace improvements. S table predictors of job satisfaction included minor daily stressors, positive work experiences, job control, and perceived supervisor support.

Montman and Kempier (1995)found working conditions as the sources of stress. Bourbonnais and Renee (1996) found that high physiological damage and low latitude was associated with physiological distress. Some researchers related job involvement and stress. Hill

and Rinaldi (2003) found that stress affected the well being of individuals as well as the productivity of businesses.

Panda (1983) conducted a study on Indian organization and found that mental overload is a prominent factor in producing stress among organizational workers. If the job with which one is engaged satisfies the needs of the individual, the degree of such mental health on the job is reduced. Work occupies a major portion of one's life in terms of both time spent and importance. It contains the potential for many forms of gratification and challenge and harm. It is not surprising that people at times find work life stressful. Indeed, stress at work is so common that one tends to accept it as part of the necessary frustration of daily living. It is often assumed that the manager and executives because of the typical nature of their work are more vulnerable than non-managers, to the ravages of stress.

Prakash (1991) tested a model of stress that describes the importance of perception in the experience of stress, using 50 university teachers classified in either a high or low stress group. According to the model the disparity between perceived demand and perceived capability produces a feeling of stress. Responses to the occupational stress inventory indicated a negative relationship between perceived capability and perceived demand. The difference between the two stress groups was significant on the basis of perceived capability and perceived demand.

Menon and Akilesh (1992) viewed that stress among executives in Indian organizations may be high in comparison to stress among their western counter parts, given the fact that Indian executives perform in a more complicated environment than their counterparts in western countries. This makes Indian managers extremely susceptible to pressure.

Menon and Akhilesh (1994) in an empirical inquiry examined 128 managers in terms of the stress they experienced. The managers representing personnel, marketing, finance, etc., revealed that the stressors identified were not found to be dependent on age, hierarchical level or tenure in the organization. On the other hand, stress is viewed as being functionally dependent (i.e., dependent on the department to which the manager belongs).

Importance of the study

Information Technology industry being an ever growing employment generating sector, there is a cause of concern by the organizations and government to look into the physical, mental and social health of its employees. The EQ (emotional quotient) of the IT employees seems to be in trouble and needs to be addressed immediately. In spite of plum salaries, there have been several cases where there have been incidents like killing, drug abuse, alcoholism, frustration leading to family problems.

Objectives of The Study

1. To study the conceptual framework of stress and coping.
2. To assess the levels of occupational stress adopted by IT employees.
3. To study the influence of secondary variables on occupational stress adopted by IT employees.

RESEARCH METHODOLOGY

This present study is based on primary data and secondary data, questionnaires method have been adopted for primary data collection, the sample for the present study was drawn from different information Technology companies. The total of 600 employees was taken up for the research, selected from various organizations. Stratified random sampling technique was employed in the selection of the sample. Collected data have been analyzed with help of SPSS in this study.

Data Analysis and interpretation

Table 1: Distribution of the sample by Managerial level

| Managerial level | Frequency | Percentage |
|------------------|-----------|------------|
| Top | 40 | 6.7 |
| Middle | 154 | 25.7 |
| Lower | 406 | 67.7 |
| Total | 600 | 100.0 |

Taking into consideration the managerial levels, of the total sample of 600 respondents, there were 40 Level A (Top) managers (6.7%), 154 Level B (Middle) managers (25.7%) and 406 Level C (Lower) managers (67.7%).

Table 2: Distribution of the sample by Educational level

| Educational level | Frequency | Percentage |
|-------------------|-----------|------------|
| Diploma | 29 | 4.8 |
| Graduate | 407 | 67.8 |
| Post graduate | 160 | 26.7 |
| Others | 4 | 0.7 |
| Total | 600 | 100.0 |

From the 600 respondents, 29 were diploma holders (4.8%), 407 were graduates(67.7%), 160 were postgraduates (26.7%) and 4 were from the category ‘others’(0.7%).

Table 3: Distribution of the sample by Age

| Age Groups | Frequency | Percentage |
|------------|-----------|------------|
| 20-25 | 309 | 51.5 |
| 26-40 | 285 | 47.5 |
| 41-55 | 6 | 1.0 |
| Total | 600 | 100.0 |

The total of the of sample 600 respondents was divided into three age groups,20-25, 26-40 and 41-55. Of the total sample, 51.5% were from the age group 20-25,47.5% from age group 26-40 and only 1% from 41-55 age group.

Table 4: Distribution of the sample by Family Environment

| Family Environment | Frequency | Percentage |
|--------------------|-----------|------------|
| Good | 548 | 91.3 |
| Average | 41 | 6.8 |
| Can't say | 11 | 1.8 |
| Total | 600 | 100.0 |

Family environments were classified into ‘good’, ‘average’ and ‘can’t say’ categories. There were 548 employees who opined their family environment as ‘good’ representing 91.3%, 41 as ‘average’ representing 6.8% and 11 as ‘can’t say’ representing 1.8%.

Table 5: Distribution of the sample by Gender

| Gender | Frequency | Percentage |
|--------|-----------|------------|
| Male | 476 | 79.3 |
| Female | 124 | 20.7 |

| | | |
|-------|-----|-------|
| Total | 600 | 100.0 |
|-------|-----|-------|

As far as gender was concerned 476 respondents were male employees representing 79.3% and 124 female employees representing 20.7%.

Table 6: Distribution of the sample by Marital

| Marital Status | Frequency | Percentage |
|----------------|-----------|------------|
| Married | 205 | 34.2 |
| Unmarried | 395 | 65.8 |
| Total | 600 | 100.0 |

As far as marital status was concerned, there were 205 married employees representing 34.2% and 395 unmarried employees representing 65.8%.

Analysis of the sample for each statement of occupational stress index:

An analysis was made to compare the level of occupational stress and coping strategies among different managerial levels among employees of IT companies. The mean values of the entire sample for different managerial levels were taken into consideration for each statement relating to Occupational Stress Index.

Table:7 Mean scores for the statement “I have to do lot of work in this job” by respondents of different managerial levels, and, results of One-way ANOVA

| Managerial Levels | Top | Middle | Low | Total |
|-------------------|-----------------|--------|-------|-------|
| Mean | 3.68 | 3.47 | 3.80 | 3.71 |
| S.D | 1.289 | 1.299 | 1.054 | 1.145 |
| F Test | F=4.867; P=.008 | | | |

A significant difference was observed among employees with regard to the ir-responses to, ‘I have to do lot of work in this job’ as the obtained F value of 4.867, so this is significant at .008 levels. From the mean values it is clear that respondents in the lower managerial levels had more stress (mean 3.80) compared to top and Level B (Middle) managers (mean 3.68 and 3.47 respectively).

Table: 8 Mean scores for the statement “The available information relating to my job-role and

its outcomes are vague and insufficient.” by respondents of different managerial levels and results of One-way ANOVA

| Managerial Levels | Top | Middle | Low | Total |
|-------------------|-----------------|--------|-------|-------|
| Mean | 2.62 | 2.74 | 2.90 | 2.84 |
| S.D | 1.234 | 0.962 | 0.923 | 0.959 |
| F Test | F=2.751; P=.065 | | | |

With regard to responses to ‘The available information relating to my job-role and its outcomes are vague and insufficient’ a non-significant difference was observed among respondents in different managerial levels as the obtained F value of 2.751 , so this is non-significant at .065 levels. The mean scores of respondents in different managerial levels are 2.62, 2.74 and 2.90 for top, middle and low levels respectively, which are same statistically.

Table:9 Mean scores for the statement “My higher-ups often give contradictory instructions regarding my works.” by respondents of different managerial levels and results of One-way ANOVA

| Managerial Levels | Top | Middle | Low | Total |
|-------------------|-----------------|--------|-------|-------|
| Mean | 2.45 | 2.55 | 2.60 | 2.58 |
| S.D | 1.037 | 0.894 | 0.893 | 0.903 |
| F Test | F=4.662; P=.516 | | | |

A non-significant difference was observed among employees of different managerial levels with regard to their responses to ‘My higher-ups often give contradictory instructions regarding my works’ as the obtained F value of 4.662 , so this is non significant (P=.516). The mean scores obtained by respondents of different managerial levels are 2.45, 2.55 and 2.60 for top, middle and low levels respectively.

Table:10 Mean scores for the statement “Sometimes it becomes a problem for me to make adjustments between politics/group pressure, formal rules and instructions” by respondents of different managerial levels and results of One-way ANOVA

| Managerial Levels | Top | Middle | Low | Total |
|-------------------|-------|--------|-------|-------|
| Mean | 2.88 | 3.06 | 2.97 | 2.98 |
| S.D | 1.067 | 0.998 | 1.023 | 1.019 |

| | |
|--------|----------------|
| F Test | F=.706; P=.494 |
|--------|----------------|

As far as the responses to ‘Sometimes it becomes a problem for me to make adjustments between politics/group pressure, formal rules and instructions’ is concerned respondents in different managerial levels had similar mean scores and the obtained F value of .706 , so this is non-significant.(P=.494) The mean scores of respondents of different managerial levels are 2.88, 3.06 and 2.97 for top, middle and low levels respectively, which are same statistically.

Table:11 Mean scores for the statement “I am responsible for the productivity and efficiency of my colleagues”, by respondents in different managerial levels and results of One-way ANOVA

| Managerial Levels | Top | Middle | Low | Total |
|-------------------|-----------------|--------|-------|-------|
| Mean | 3.52 | 3.48 | 3.20 | 3.30 |
| S.D | 1.198 | 1.043 | 0.926 | 0.985 |
| F Test | F=5.725; P=.003 | | | |

With regard to their responses to ‘I am responsible for the productivity and efficiency of my colleagues’, a significant difference was observed among respondents of different managerial levels as the obtained F value of 5.725 , so this is significant at .003 levels. From the mean values it is clear that, those respondents in the top managerial level had more stress (mean 3.52) compared to Level B (Middle) managers (mean 3.48) and Level C (Lower) managers (mean 3.20). It is further observed that, the higher the managerial level higher is the stress experienced (for this particular statement).

Table: 12 Mean scores for the statement “Keep your feelings to yourself” by respondents of different managerial levels and results of One-way ANOVA

| Managerial Levels | Top | Middle | Low | Total |
|-------------------|-----------------|--------|-------|-------|
| Mean | 3.08 | 2.97 | 3.19 | 3.12 |
| S.D | 1.269 | 1.218 | 1.114 | 1.154 |
| F Test | F=2.117; P=.121 | | | |

A non-significant difference was observed among employees with regard to their responses to, ‘Keep your feelings to yourself’ as the obtained F value of 2.117, so this is non-significant (p=.121). The mean scores of respondents of different managerial levels are 3.08, 2.97 and 3.19 for top, middle and low levels respectively, which are same statistically.

INFLUENCE OF INDEPENDENT VARIABLES ON OCCUPATIONAL STRESS

Table: 13 Mean scores of Information Technology employees in different managerial levels on different subscales of Occupational Stress and results of One-way ANOVA

| Sub Scale | Mean | SD | F value | P value | |
|--|------------------|-------|---------|---------|--------------|
| Role over load | Level A (Top) | 18.68 | 3.87 | 0.473 | 0.624 |
| | Level B (Middle) | 19.25 | 3.83 | | |
| | Level C (Lower) | 19.50 | 6.14 | | |
| | Total | 19.39 | 5.50 | | |
| Role ambiguity | Level A (Top) | 9.98 | 2.90 | 1.735 | 0.177 |
| | Level B (Middle) | 10.79 | 2.50 | | |
| | Level C (Lower) | 10.76 | 2.62 | | |
| | Total | 10.72 | 2.62 | | |
| Role Conflict | Level A (Top) | 13.38 | 3.14 | 0.465 | 0.628 |
| | Level B (Middle) | 13.78 | 2.32 | | |
| | Level C (Lower) | 13.63 | 2.47 | | |
| | Total | 13.65 | 2.48 | | |
| Un-reasonable Group & Political Pressure | Level A (Top) | 11.65 | 2.56 | 0.385 | 0.680 |
| | Level B (Middle) | 11.97 | 2.52 | | |
| | Level C (Lower) | 11.79 | 2.49 | | |
| | Total | 11.83 | 2.50 | | |
| Responsibility for persons | Level A (Top) | 10.28 | 2.52 | 10.592 | 0.000 |
| | Level B (Middle) | 10.16 | 2.07 | | |
| | Level C (Lower) | 9.35 | 2.05 | | |
| | Total | 9.62 | 2.12 | | |
| Under- Participation | Level A (Top) | 10.85 | 2.62 | 7.570 | 0.001 |
| | Level B (Middle) | 11.50 | 2.37 | | |

| | | | | | |
|-----------------------------|------------------|-------|------|--------|--------------|
| | Low e r-Level | 12.04 | 2.10 | | |
| | Total | 11.83 | 2.23 | | |
| Powerlessness | Level A (Top) | 7.53 | 2.16 | 16.310 | 0.000 |
| | Level B (Middle) | 8.12 | 1.89 | | |
| | Level C (Lower) | 8.92 | 1.94 | | |
| | Total | 8.62 | 1.99 | | |
| Poor peer Relations | Level A (Top) | 10.18 | 2.98 | 3.002 | 0.050 |
| | Level B (Middle) | 10.86 | 2.62 | | |
| | Level C (Lower) | 10.36 | 2.09 | | |
| | Total | 10.48 | 2.31 | | |
| Intrinsic Impoverishment | Level A (Top) | 10.70 | 2.78 | 0.256 | 0.774 |
| | Level B (Middle) | 10.64 | 2.43 | | |
| | Level C (Lower) | 10.81 | 2.43 | | |
| | Total | 10.76 | 2.45 | | |
| Low status | Level A (Top) | 7.63 | 2.33 | 0.309 | 0.734 |
| | Level B (Middle) | 7.55 | 2.16 | | |
| | Level C (Lower) | 7.43 | 1.99 | | |
| | Total | 7.47 | 2.06 | | |
| Strenuous Working Condition | Level A (Top) | 12.03 | 2.83 | 1.137 | 0.321 |
| | Level B (Middle) | 11.94 | 2.56 | | |
| | Level C (Lower) | 11.58 | 2.93 | | |
| | Total | 11.70 | 2.83 | | |
| Unprofitability | Level A (Top) | 6.20 | 1.91 | 0.712 | 0.491 |
| | Level B (Middle) | 6.18 | 1.43 | | |
| | Level C (Lower) | 6.35 | 1.64 | | |
| | Total | 6.29 | 1.61 | | |

| | | | | | |
|-------|------------------|--------|-------|-------|-------|
| | Level A (Top) | 129.05 | 16.37 | | |
| | Level B (Middle) | 132.73 | 16.85 | | |
| | Level C (Lower) | 132.52 | 17.34 | | |
| Total | Total | 132.35 | 17.15 | 0.800 | 0.450 |

On the 'role overload' subscale as the obtained F value of .473 , so this is non-significant (P=.624). there is no significant difference was observed among Information Technology employees belonging to different managerial levels. And The mean role overload scores obtained by different level IT employees are 18.68, 19.25 and 19.50 respectively, which are all same statistically.

Information Technology employees belonging to different managerial levels didnot differ significantly in their role ambiguity, as the obtained F value of 1.735 , so this is non-significant (P=.177). The mean 'role ambiguity' scores obtained byLevel A (Top), Level B (Middle) and lower- level IT employees are 9.98, 10.79 and 10.76respectively, which are all same statistically.

Managerial levels did not influence Information Technology employees on the subscale 'role conflict' as the obtained F value of .465 , so this is non-significant(P=.628). The mean 'role conflict' scores obtained by level A, level A (middle) and Level C (Lower) IT employees are 13.38, 13.78 and 13.63 respectively, which are all same statistically.

A non-significant difference was observed among Information Technology employees belonging to different managerial levels on the subscale 'unreasonable group and political pressure' as the obtained F value of .385, so this is non-significant (P=.680). The mean 'unreasonable group and political pressure' scores obtained by top- level, Level B (Middle) and lower- level IT employees are 11.65, 11.97 and 11.79 respectively, which are all same statistically.

A significant difference was observed among Information Technology employees belonging to different managerial levels on the subscale 'responsibility for persons' as the obtained F value of 10.592 , so this is significant (P=.000). The mean 'responsibility for persons' scores obtained by top- level, Level B (Middle) and level CIT employees are 10.28, 10.16 and 9.35 respectively. This indicates that the influence of managerial level on stress in the subscale 'responsibility for persons' is significantly more among the top- level employees and least among the lower- level employees.

In this subscale, IT employees in different managerial levels differed significantly as the obtained F value of 7.570 , so this is significant at.001levels. The mean 'under-participation' scores obtained by top- level, Level B (Middle)and Level C (Lower)Information Technology employees are 10.85, 11.50 and 12.04 correspondingly. This indicates that the influence of

managerial level on stress in the subscale 'under participation' is significantly more among the lower- level employees and least among the top- level employees.

A significant difference was observed among Information Technology employees belonging to different managerial levels on the subscale 'powerlessness' as the obtained F value of 16.310 , so this is significant ($P=.000$). The mean 'powerlessness' scores obtained by top- level, Level B (Middle) and Level C (Lower)Information Technology employees are 7.53, 8.12 and 8.92 respectively. Further, one can infer that the influence of managerial level on stress in the subscale 'powerlessness' is significantly more among the lower- level employees and least among the top- level employees.

Employees in different managerial levels differed significantly in 'poor peer relations' subscale, as the obtained F value of 3.002 , so this is significant ($P=.050$). The mean 'poor peer relations' scores obtained by top- level, Level B (Middle) and level C Information Technology employees are 10.18, 10.86 and 10.36respectively. This indicates that the influence of managerial level on stress in the subscale 'poor peer relations' is significantly more among the Level B (Middle)employees and least among the Level A (Top) employees.

A non-significant difference was observed among Information Technology employees belonging to different managerial levels on the subscale 'intrinsic impoverishment' as the obtained F value of .256 , so this is non-significant($P=.774$). The mean 'intrinsic impoverishment' scores obtained by Different level Information Technology employees are 10.70, 10.64 and 10.81 respectively, which are all same statistically.

Information Technology employees belonging to different managerial levels had statistically equal scores on 'low status' subscale as the obtained F value of .309 , so this is non-significant ($P=.734$). The mean 'low status' scores obtained by level A,B and C level Information Technology employees are 7.63, 7.55 and 7.43respectively.

A non-significant difference was observed among Information Technology employees belonging to different managerial levels as on the 'strenuous working condition' subscale, as the obtained F value of 1.137 , so this is no significant($P=.321$). The mean 'strenuous working condition' scores obtained by Different level Information Technology employees are 12.03, 11.94 and11.58 respectively, which are all same statistically.

Managerial levels did not influence Information Technology employees on the subscale 'unprofitability' as the obtained F value of .712 , so this is non significant ($P=.491$). The mean 'unprofitability' scores obtained by top- level, Level B (Middle)and Level C (Lower)Information Technology employees are 6.20, 6.18 and 6.35 respectively, which are all same statistically.

In total Occupational Stress, again a non-significant difference was observed among Information Technology employees belonging to different managerial levels as the obtained F value of .800 , so this is non-significant (P=.450). Their mean 'total' scores obtained by Different level Information Technology employees are 129.05, 132.73 and 132.52 respectively, which are all same statistically.

Conclusion

It was found that Occupational Stress for the entire sample was moderate. There was no significance found in the entire sample on all subscales of stress like role overload, role ambiguity, role conflict, unreasonable group and political pressure, responsibility for persons, under participation, powerlessness, poor peer relations, intrinsic impoverishment, low status, strenuous working condition and unpredictability.

Information Technology employees have to keep pace with the change in the job culture which affects the mental health of the employees. This is particularly relevant because jobs in information technology is the most coveted one in modern India, and the most brilliant section of the youth are going for it. While each job has its own stress, Information Technology jobs are somewhat different from our traditional and typical concept of secured employment. Information Technology jobs are mostly contractual with less job security but high pay, and entail strong competitiveness, along with globalized lifestyle. There are a few evidences that Information Technology jobs are offering an elevated standard of life, but taking tolls on the mental health and relationship aspects of the professionals. Information Technology professionals need to take responsibility for maintaining the necessary balance in their lives by addressing these workplace stressors. Once the stressors are identified by the individual, a commitment must be made to work on easing this stress. Generally Information Technology employees are found to have various causes of stress like, heavy workload and its concomitant time pressures and unrealistic deadlines; what must be accomplished on the job and what the manager would like the employees to accomplish; the general organizational political climate; and lack of feedback on job performance.

References

- Robbins, S. P, Organizational behaviour, New York: Prentice Hall, 1996.
- Shashi K. Gupta, Rosy Joshi, Human Resource Management, Kalyani Publishers, 2013.
- Anthony H. Winefield and Richard Jarrett "Occupational Stress in University Staff", International Journal of Stress Management, Volume8, Issue 4, 2001.\
- Azlihanis. H, Naing. A. L., Aziah. D, Rusli. B.N, "Socio-demographic, Occupational And Psychosocial Factors Associated With Job Strain Among Secondary School Teachers inKota Bharu, Kelantan", Malaysian Journal of Medical Sciences, Vol. 13, Jan. Supplement, 2006.

- Bakker.A. B and Bal, “Weekly work engagement and performance: A study among starting Teachers”, Journal of Occupational and Organizational Psychology, Vol. 83(1),2010.
- Bhatti.N, Hashmi.A.M, Raza. A.S, Shaikh.M.F, Shafiq. K, “Empirical Analysis of Job Stress on Job Satisfaction among University Teachers in Pakistan”. International Business Research, Vol.4 (3), 2011.
- Fako.T.T, “Occupational Stress among University Employees in Botswana”, European Journal of Social Sciences, Vol.15 (3), 2010.\
- Harish Kumar Tyagi and Mudasir Manzor Kirmani, “Effect of Type of School, Gender, Age, Qualification and Experience on Role Stress: An Empirical Study on Educational Administrators of Eritrea”, International Journal of Modern Management Sciences,2012, Vol.1(1).
- Kyriacou.C, “Teacher stress: directions for future research”, Educational Review, 53(1), 2001.