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## **An Empirical Study on Stress Management in Information Technology Industry in India**

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### **Abstract**

The employees of various organizations undergo lot of hardships and all sorts of pressure in work places during their work tenure. And 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 in turn 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 an 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.**

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### **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 Hung, W.T.(2020).

## 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

Chanda and Goyal (2020) considered that employee progress, community, and environment issues play important roles for an organization to achieve sustainable growth, and therefore, help explore ways to improve employee satisfaction in the manufacturing industry. In order to improve job performance, this study employs the Bayesian network approach to identify relationships at all levels of employee satisfaction, commitment, and job performance.

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 is improved over time and these increases were attributable to workplace improvements. Significant 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 their typical nature of work are more vulnerable than non-managers, to the ravages of stress.

Han et al. (2020) explored the relationship between structures that affect employee performance, such as psychology (meaningfulness and job engagement), behavior (in-role performance), and empathy (job characteristics) in IT firms, have found that employees had a significant positive relationship between job participation, role seniority, and performance, and they attempted to link the relationship between job characteristics and in-role performance.

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).

Hung (2020) explored the relationship between employees' personality and job performance, and found that working hard and working smart certainly affected job performance, while conscientiousness, agreeableness, and open to experience through working hard affected performance. In addition, extraversion, conscientiousness, emotional stability, and openness to experience through working smart will affect job performance.

### **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 is drawn from different information Technology companies. The total of 600 employees is taken up for the research, selected from various organizations. Stratified random sampling technique is 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**

<b>Managerial level</b>	<b>Frequency</b>	<b>Percentage</b>
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**

<b>Educational level</b>	<b>Frequency</b>	<b>Percentage</b>
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**

<b>Age Groups</b>	<b>Frequency</b>	<b>Percentage</b>
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**

<b>Family Environment</b>	<b>Frequency</b>	<b>Percentage</b>
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 is concerned 476 respondents are 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 is concerned, there are 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 is 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 are 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 is observed among employees with regards to the 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 soon as the responses are derived ‘to me it becomes a problem to make adjustments between politics/group pressure, formal rules and instructions’ as 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 regards to their responses to ‘I am responsible for the productivity and efficiency of my colleagues’, a significant difference is 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 had more stress than the 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 is observed among employees with regards 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	Level A (Top)	10.28	2.52	10.592	<b>0.000</b>

persons	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		
	Level B (Middle)	11.50	2.37		
	Lower-Level	12.04	2.10		
	Total	11.83	2.23	7.570	<b>0.001</b>
Powerlessness	Level A (Top)	7.53	2.16		
	Level B (Middle)	8.12	1.89		
	Level C (Lower)	8.92	1.94		
	Total	8.62	1.99	16.310	<b>0.000</b>
Poor peer Relations	Level A (Top)	10.18	2.98		
	Level B (Middle)	10.86	2.62		
	Level C (Lower)	10.36	2.09		
	Total	10.48	2.31	3.002	<b>0.050</b>
Intrinsic Impoverishment	Level A (Top)	10.70	2.78		
	Level B (Middle)	10.64	2.43		
	Level C (Lower)	10.81	2.43		
	Total	10.76	2.45	0.256	0.774
Low status	Level A (Top)	7.63	2.33		
	Level B (Middle)	7.55	2.16		
	Level C (Lower)	7.43	1.99		
	Total	7.47	2.06	0.309	0.734
Strenuous Working Condition	Level A (Top)	12.03	2.83		
	Level B (Middle)	11.94	2.56		
	Level C (Lower)	11.58	2.93	1.137	0.321

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

On the 'role overload' subscale as the obtained F value of .473, so this is non-significant ( $P=.624$ ). There is no significant difference 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 did not 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 by Level A (Top), Level B (Middle) and lower-level IT employees are 9.98, 10.79 and 10.76 respectively, 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 is 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.

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 than that of 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 .001 levels. 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 is 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 10.36 respectively. This indicates that the influence of managerial level on stress in the subscale 'are poor peer relations' is significantly more among the Level B (Middle) employees and least among the Level A (Top) employees.

A non-significant difference is 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 7.43 respectively.

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 and 11.58 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). They 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 is found that Occupational Stress for the entire sample is moderate. There is 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 offer, such as, 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.

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