

Determinants of Occupational Stress Among Information Technology Employees in Chennai City

Dr. G. Vijayakumar

*Assistant Professor of Commerce,
Sir Theagaraya College, Chennai*

Abstract

Stress has become a part of our fast-paced life. Stress not only affects mental health but also has become a reason for many critical diseases like cancer, obesity, heart attack, etc. Both personal and professional environments cause stress. People spend more than one-third of their time at their workplaces; therefore, occupational stress is getting more attention from researchers. Stress among information technology employees can directly affect the company's production capacity, which can lead to a declining trend in revenues. Thus, this study has been done, keeping in view the importance of studying occupational stress. The study highlights the factors that need to be improved to minimize occupational stress among information technology employees.

Keywords: Occupational Stress, IT Professionals, and IT Sectors.

I. INTRODUCTION

Psychologist Richard S. Lazarus best described stress as “a condition or feeling that a person experiences when they perceive that the demands exceed the personal and social resources the individual can mobilize.” The term ‘stress’ was first defined by Selye (1956) as “the nonspecific response of the body to any demand for change”. Stress is mainly related to the body's response to any demand. Both good and bad experiences can cause it. In a medical or biological context, stress is a physical, mental, or emotional factor that causes bodily or mental tension (Palmer *et al.*, 2003). Stress can be caused by the external environment, such as the family, work, or social environment, or by internal issues like illness or medical processes. Occupational stress can be defined as the adverse psychological and physical reactions that occur in an individual as a result of their being unable to cope with the demands being made on them (Omolar, 2008). Stress that happens due to a person's employment is termed occupational stress. The terms job stress and occupational stress are used interchangeably (Dollard,

2003). Keeping in view all the above definitions, occupational stress is defined as the harmful emotional (i.e., anxiety and depression), physical (i.e., insomnia, headaches and infections), and behavioral responses (i.e., job dissatisfaction, low commitment and poor work performance) that occur when work necessities do not match the capabilities, possessions and needs of the worker (Zafir *et al.*, 2009). Occupational stress prevails in almost every sector of the economy, whether it is the service sector, agricultural sector, or industrial sector. In the industrial sector, it is becoming a highly noticeable issue nowadays. In automobile industries, blue-collar employees are part of the human resource of a company, considered the most valuable assets of any company, as it is the man (human resource) who gives movement to other three M's of the company which are: material, machine and money. Blue-collar employees are directly related to the production process. Blue-collar employees are the basis of every manufacturing organization across the world. If treated well, blue-collar employees can prove to be a competitive advantage for a firm, as workforce productivity determines an organization's success. This group is more prone to stress as they are less educated, work in strenuous conditions, and belong to a lower-income group. Thus, it becomes more important for the organization to give more attention to dealing with any work-related stress of blue-collar employees. Occupational stress may be caused due to many reasons. Some of the causes of occupational stress among blue-collar employees can be: poor working conditions, work overload, poor leadership, poor interpersonal relationships, role ambiguity, lack of career growth and development opportunities and many more (Cooper *et al.*, 2001; and Zafir *et al.*, 2009).

Occupational stress can directly affect employee performance, which leads to a decrease in the overall production level of the organization. Less production will lead to fewer profits for the company and can even create a negative image of the company in the market. Thus ultimately it is the organization that will bear the consequences of an increased level of stress among its employees in the form of high labor turnover, low group morale and output, and poor labor relations (Ivancevich & Matterson, 1980). Occupational stress is harmful not only to the organization but also to the health of employees (Kyriacou, 1989). Northwestern National Life (1991) found that 25% of employees report that their job is the number one stressor in their lives. Work stress is linked to health issues more strongly than any other life stressors, including family issues and financial problems (The St. Paul Fire and Marine Insurance Company, 1992).

Living with this stress will take a toll on the employee, which in turn will take a toll on the organization through increased burnout, decreased engagement, decreased productivity, decreased retention, and decreased participation (Weaver, 2003; and Bryner, 2006). Thus, it is very important for any organization to identify

the causes of occupational stress among its employees and to minimize the level of occupational stress. Minimizing occupational stress could be a productive endeavor for organizations. In addition, identifying some of the factors of occupational stress, such as conflict, ambiguity, and overload, can help organizations better identify when stress is present. Reducing these stress levels through increased engagement will increase productivity and retention of key personnel by reducing occupational stress (Caponetti, 2012).

Though there are many reasons for the increased level of occupational stress among blue-collar employees, as they are more prone to stress because of their socioeconomic background and the workplace environment, the most important reason which many researchers highlight is the leadership style prevailing in the organizations (Lewin, 1939), identifying the factors in an organization that may lead to occupational stress among blue-collar employees is important for both the organization (in terms of production level) and employees (physical and mental health).

Review Of Literature

Eliza Sharma (2015) found that certain factors need to be improved to minimize occupational stress among blue-collar employees. Rivera *et al.* (2014) analyzed the relationship between leadership styles of supervisors and burnout among subordinates and found that leadership has a significant positive relationship with personal achievement and is negatively related to emotional exhaustion, thus leading to burnout. The study also found a positive relationship between a passive leadership style and emotional exhaustion. Hand (2010) examined the relationship between leadership styles and stress in the Catholic education system. It concluded that leadership styles are positively related to the capacity to cope with stress, and also found that gender differences do not affect an individual's stress level. Amir and Abraham (2009) and Costa *et al.* (2009) concluded that work characteristics have a great influence over occupational stress among hotel employees. Viljoen and Rothmann (2009) found that work overload, control, job aspects, work-life balance, and pay were the main factors that cause occupational stress. The study also confirmed the negative effect of occupational stress on physical and psychological health. De Nobile and McCormick (2007) also favored the statement that there is an association between stress and leadership styles. Jackson and Rothmann (2006) concluded that occupational stress causes ill-health. Organizational commitment has a direct influence on occupational stress. They also found that leadership styles are responsible for occupational stress among employees.

Objectives of the Study

The main objectives of the study are as follows:

- To identify the factors that cause occupational stress among the information technology employees in Chennai city; and
- To measure the predominant factors contributing to occupational stress among information technology employees in Chennai city.

Research Methodology

The present study's core objective is to identify the determinants of occupational stress among information technology employees and measure the predominant factors contributing to it. The study used both secondary and primary data. Secondary data was used to attain the above objectives. The study was conducted in Chennai city, Tamil Nadu. Chennai is one of the important places for the software industry. The software Industries operation is software development, software export, import; software testing, Business Processing outsourcing, foreign projects and others job related activities in Chennai city. So the researcher finds Chennai as the most suitable place to conduct this research. The sample for this study consisted of 400 employees drawn based on random sampling from IT industries situated in and around Chennai city. The information technology employees were contacted face-to-face to collect primary data. For the purpose of checking the reliability of the responses given by the employees, the actual working place of the information technology employees was visited for collecting more information about their working conditions, environment, the problems faced by the employees during their work, etc. The data were collected over a period of ten months, from June 2015 to March 2016. For the purpose of collecting the data for the primary study, structured research instruments were used to collect information about occupational stress among employees. The research instrument used to collect and measure the level of occupational stress among information technology professionals working in Chennai. Based on the literature review, 17 statements were developed. The instrument was first tested by doing a pilot study. The value of Cronbach's alpha came to 0.892 during the pilot study; hence, the same questionnaire was used for the final study, keeping in view the high score of reliability and validity of the instrument. All the statements were based on Likert's five-point scale, from strongly agree to disagree strongly. The demographic data of the employees was also collected through primary survey such as, age, gender, dependent members in the family, annual salary, family type, marital status and education. The data was analyzed using SPSS 21.0 version.

Data Analysis and Interpretation

Table :1
Profile of Respondents

	Frequency	Percent
Gender		
Male	275	68.8
Female	125	31.2
Total	400	100.0
Age		
Up to 25 years	100	25.0
26-30 years	119	29.8
31-35 years	90	22.5
Above 35 years	91	22.7
Total	400	100.0
Marital Status		
Single	112	28.0
Married	288	72.0
Total	400	100.0
Educational Qualification		
UG	148	37.0
PG	133	33.2
Professional Degree	119	29.8
Total	400	100.0
Monthly Income		
Up to Rs.20,000	80	20.0
Rs.20,001 - Rs.40,000	160	40.0
Rs.40,001 - Rs60,000	120	30.0
Above Rs.60,000	40	10.0
Total	400	100.0
Dependent Members		
one	112	28.0
Two	195	48.8
Three	56	14.0
Above 4	37	9.2
Total	400	100.0
Family Type		
Nuclear family	312	78.0

Joint family	88	22.0
Total	400	100.0

Source: Primary data

Exploratory Factor Analysis

Factor analysis is used to identify the determinants that cause occupational stress among the information technology employees in Chennai city. The purpose of adopting exploratory factor analysis is to identify a smaller number of factors underlying the large number of observed variables. The KMO ranges from 0 to 1, with higher values indicating greater suitability. Ideally, this value is to be greater than 0.7. According to Kaiser, a KMO measure of 0.9 to 1.0 marvelous, 0.8 to 0.9 meritorious, 0.7 to 0.8 middling, 0.6 to 0.7 mediocre and 0.5 to 0.6 miserable (Marcus et.al., 2006). Table 2 shows that, regarding information technology employees' perceptions of occupational stress, the Kaiser-Meyer-Olkin measure of sampling adequacy (MSA) is 0.855, and Bartlett's test of sphericity is significant (Chi-square value is 5328.147 and P value is 0.000).

Table :2

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.855
Bartlett's Test of Sphericity	Approx. Chi-Square	5328.14
		7
	df	136
	Sig.	.000

Source: Computed data

Table :3

Total Variance Explained

Component	Initial Eigen values			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.948	40.871	40.871	4.498	26.460	26.460
2	2.443	14.370	55.241	3.103	18.252	44.712
3	1.269	7.466	62.707	2.611	15.356	60.068
4	1.177	6.923	69.630	1.473	8.667	68.736
5	1.029	6.055	75.685	1.181	6.950	75.685

Extraction Method: Principal Component Analysis

The above table indicates that the 17 variables are converted into 5 predominant factors with eigenvalues 4.498, 3.103, 2.611, 1.473, and 1.181, and individual variances of 26.460%, 18.252%, 15.356%, 8.667%, and 6.950%. The

total variance of 17 variables is 75.685%, which is statistically significant at the 5% level. It also shows that the derivations of 5 factors are meaningful in explaining the determinants that cause occupational stress among information technology employees in Chennai city.

Table :4
Rotated Component Matrix

Rotated Component Matrix ^a					
	Component				
	WP	WE	IR	CG	JA
Excessive workload	.903				
Target to complete the projects	.902				
Work pressure	.840				
Restless	.824				
Work Ambiguity	.689				
No good relationship		.853			
No Job rotation		.799			
Job culture		.793			
No proper recognition		.750			
Conflict with supervisor			.865		
Lack of support from supervisor			.826		
Poor peer relations			.693		
Lack of Training				.862	
Lack of career development opportunities				.573	
Lack of control over the pace of work					.819
Pint-sized authority or powerlessness					.601

Extraction Method: Principal Component Analysis

Rotation Method: Varimax with Kaiser Normalization^a

Rotation converged in 11 iterations.

(WP: Work Pressure, WE: Work Environment, IR: Interpersonal Relations, CG: Career and Growth prospects, and JA: Job Authority)

The above Table 4 highlights the five prime components that played a great role in organizational stress among the information technology employees in Chennai city. The rotated components help in making a broad interpretation of the five parameters that are identified. The first factor is the most important,

explaining 26.46% of the total variance. The first factor loaded five statements which included “Excessive work load” (0.903), “Target to complete the projects” (0.902), “Work pressure” (0.840), “Restless” (0.824) and “Work Ambiguity” (0.698). It can be interpreted as “Work Pressure”.

The second factor explains 18.252% out of total variance, which comprises four variables namely “No good relationship” (0.853), “No Job rotation” (0.799), Job culture (0.793) and “No Proper Recognition” (0.750). It is named as “Work Environment”.

The third factor explains 15.35% of the total variance. There are three variables included in this factor namely “Conflict with supervisor” (0.865), “Lack of support from supervisor” (0.826) and “Poor peer relations” (0.693). It can be represented as “Interpersonal Relations”.

The fourth factor explains 8.66% of the total variance. In this factor, there are two variables included namely “Lack of Training” (0.862) and “Lack careerier development opportunities” (0.573). It is named as “Career and Growth Aspects”.

The last factor explains 6.95% of the total variance. This factor included two factors, namely “Lack of control over the pace of work” (0.819) and “Pint-sized authority or powerlessness” (0.601). It can be named as “Job Authority”.

Table :5
Determinants of Occupational Stress among the information technology employees in Chennai city
Coefficients^a

Independent Variable	Beta	t value	Sig.
Work Pressure	0.823	42.819	0.001**
Work Environment	0.740	34.215	0.000**
Interpersonal Relations	0.631	28.162	0.003**
Career and Growth Aspect	0.526	24.187	0.001**
Job Authority	0.459	23.148	0.000**
R Value=0.891, R-Square value=0.724			
ANOVA Results: (F Value = 106.352, Significant value 0.000**			

Note: denotes significant at 1% level

The above table shows the determinants of occupational stress among the information technology employees in Chennai city. The multiple regression analysis was conducted to measure the contribution of each of the above five predominant factors (which has been derived through exploratory factor analysis) in occupational stress among the information technology employees in Chennai

city. It is noted from the above table, R value is 0.891 and R square value is 0.724 which indicates 72.4% variations towards independent variable towards dependant variable. The F value is 106.352, and the corresponding p value is 0.000, which is less than 0.01. The independent variable causes occupational stress among the information technology employees in Chennai city. The table also found that work pressure is the most significant factor for occupational stress, followed by work environment, interpersonal relations, and career growth aspect. Job authority is the least significant factor for occupational stress among the information technology employees in Chennai city.

II.CONCLUSION

It is noted from the above study, five predominant factors namely Work Pressure, Work Environment, Interpersonal Relations, Career and Growth prospects and Job Authority causes the occupational stress among the information technology employees in Chennai city. The Overall occupational stress was found to be very high among the information technology employees in Chennai city. The study highlights the factors that are highly responsible for causing occupational stress among the employees. By improving these factors and implementing strong strategies, the level of occupational stress can be minimized. The managers should try to improve the working environment of the company, as it is found to be the highest contributing factor to occupational stress among employees.

Limitations of the Study

The study also has some limitations. The study is done in Chennai city only. The research focused on employees of information technology organizations, and the study has restricted findings to only occupational stress among information technology employees in Chennai city.

III.REFERENCES

1. Agolla J E (2009), "Occupational Stress Among Police Officers: The Case of Botswana Police Service", *Occupational Stress among Police Officers: The Case of Botswana Police Service*, Vol. 3, No. 1, pp. 25-35.
2. Amir Shani and Abraham Pizam (2009), "Work-Related Depression among Hotel Employees", *Cornell Hospitality Quarterly*, Vol. 50, No. 4, pp. 446-459.
3. Bryner Jeanna (2006), "Job Stress Fuels Diseases", available at <http://www.livescience.com/1146-job-stress-fuels-disease.html>.
4. Caponetti, Amy Rebecca (2012), "The Correlates of Work Role Stress with Employee Burnout, Engagement. PhD diss., University of Tennessee, 2012. [http:// trace.tennessee.edu/utk_graddiss/1407](http://trace.tennessee.edu/utk_graddiss/1407)

5. Chang-qin Lu, Oi-ling Siu, Wing-tung Au and Sandy S W Leung (2009), "Manager's Occupational Stress in State-Owned and Private Enterprises in the People's Republic of China", *The International Journal of Human Resource Management*, Vol. 2, No. 8, pp. 1670-1682.
6. Clark Don (1998), "Leadership Styles", available at <http://www.nwlink.com/donclrak>.
7. Connolly John F, Willock Joyce, Hipwell Michele and Chisholm Vivienne (2009), "Occupational Stress and Psychological Well Being following University Relocation: Six Months on Project Report", Queen Margaret University.
8. Cooper CL, Dewe PJ and O'Driscoll MP (2001), *Organizational Stress: A Review and Critique of Theory, Research and Applications*, Sage Publications: CA.
9. Costa R Ruyter K, Wetzels M and Feinberg R (2009), "Work Stress and Personality Measures Among Hotel Employees", *International Journal of Contemporary Hospitality Management*, Vol. 7, No. 6, pp. 9-14.
10. De Nobile J J and McCormick J (2005), "Organizational Communication and Job Satisfaction in Australian Catholic Primary Schools", *Educational Management Administration and Leadership*, Vol. 36, No. 1, pp. 101-122.
11. De Nobile J J and McCormick J (2005), "Organizational Communication and Job Satisfaction in Australian Catholic Primary Schools", *Educational Management Administration and Leadership*, Vol. 36, No. 1, pp. 101-122.
12. Dollard MF (2003), *Introduction: Context theories and intervention*. In MF Dollard, AH Winefield, & H.R. Winefield (Eds.), *Occupational stress in the service professions*. Taylor & Francis, New York.
13. Grimm J W (2008), "Occupations and Publics: A Framework for Analysis", *Sociological Quarterly*, Vol. 14, No. 1, pp. 68-87.
14. Hand E Lynette (2010), "Role Factors, Leadership Styles and Stress Among Catholic Primary School Executives", available at <http://epublications.bond.edu.au/cg>
15. Hui S K and Cheung H Y (2006), "A Re-examination of Leadership Style for Hong Kong School Based Management (SBM) Schools", *Asia Pacific Journal of Education*, Vol. 26, pp. 173-187.
16. Ivancevich J M and Matterson M T (1980), "Stress and Work: A Managerial Perspective", *Work Stress: Health Care Systems in the Workplace*, pp. 27-49, Praeger, New York.
17. Jackson Leon and Rothmann Sebastiaan (2006), "Occupational Stress, Organizational Commitment, and Ill Health of Educators in the North

- West Province”, *South African Journal of Education*, Vol. 26, No. 1, pp. 75-95.
18. Kaiser H F (1960), “The Application of the Electronic Computers to Factor Analysis”, *Education and Psychological Measurement*, Vol. 20, pp. 141-151.
 19. Kyriacou C (1989), “The Nature and Prevalence of Teacher Stress”, *Teaching and Stress*, pp. 27-34, Open University Press, Milton Keynes.
 20. Lewin K, Lippitt R and White RK (1939), Patterns of aggressive behavior in experimentally Created Social Climates, *Journal of Social Psychology*, Vol. 10, pp. 271-301.
 21. Northwestern National Life (1991) http://trace.tennessee.edu/cgi/viewcontent.cgi?article=2563&context=utk_graddiss
 22. Omolara B E (2008), “Influence of Work Related Stress on Organizational Commitment”, *EABR & TLC Conferences Proceedings*, Rothenberg, Germany.
 23. Palmer J R Jr., Hunt J G and Osborn R N (2003), *Organizational Behavior*, John Wiley and Sons, Inc., New York.
 24. Rivera R Blanca, Martinez I and Baron M (2014), “The Impact of Transformational Leadership in Burnout of Nurses and Doctors in a Public Hospital of Mexico”, *American Journal of Health Sciences*, Vol. 4, No. 1, available at [http:// www.researchgate.net/publication](http://www.researchgate.net/publication)
 25. Selye H (1956), *The Stress of Life*, McGraw Hill, New York. 25. (The St. Paul Fire and Marine Insurance Company, 1992) http://trace.tennessee.edu/cgi/viewcontent.cgi?article=2563&context=utk_graddiss
 26. Todd A Ryska (2002), “Leadership Styles and Occupational Stress Among College Athletic Directors: The Moderating Effect of Program Goals”, *The Journal of Psychology: Interdisciplinary and Applied*, Vol. 136, No. 2, available at [http:// www.tandfonline.com/doi/pdf/](http://www.tandfonline.com/doi/pdf/).
 27. University of Tennessee, Knoxville Trace: Tennessee Research and Creative Exchange Doctoral Dissertations Graduate School 8-2012 The Correlates of Work Role Stress with Employee Burnout, Engagement
 28. Viljoen J P and Rothmann S (2009), “Occupational Stress, Ill Health and Organizational Commitment of Employees at a University of Technology”, *SA Journal of Industrial Psychology*, Vol. 35, No. 1, pp. 730-811.
 29. Weaver J (2003), “Job Stress Burnout on the Rise: Layoffs, Long Hours Taking Toll on Workers”. Retrieved from MSNBC website: <http://www.msnbc.msn.com/id/3072410>.

30. Zafir Mohamed, Makhbul Durrishah and Idrus (2009), “Work Stress in Malaysia”, Malaysia Labor Review, Vol. 3, No. 2, pp. 13-26.