

**A STUDY ON FACTORS INFLUENCING STRESS AMONG IT
PROFESSIONALS.**

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Abstract - Today most of the employees are in the state of Stress. Stress is an inevitable & universal element. As a fast paced industry it tends to be more in the IT industry. Productivity of employees can be affected by the stress and that can lead to The study aims to know stress levels of employees. Five major factors which influence stress have been identified as Self-role distance, Inter- role distance, role boundedness, Personal Inadequacy, and Environment. The results revealed that environmental factors have the greater influence towards stress and also the role boundedness doesn't have significant influence. Previous studies in this area found that personal inadequacy was one of the main reasons for stress but this study indicates that it has come down. It is observed that stress can result in burnout, anxiety and depression.

Keywords: Stress, IT, employees, Self-role distance, Inter- role distance, role boundedness, Personal Inadequacy, and Environment.

I. INTRODUCTION

Today's world, the degree of stress increased owing to urbanization, globalization that results into cut-throat competition. Stress is an inescapable part of modern life, work place is becoming a volatile stress factory for most employees and it is rightly called as the Age of anxiety. Stress has become significantly with the result of dynamic social factors and changing needs of life styles. Stress is man's adaptive reaction to an outward situation which would lead to physical, mental and behavioral changes. Brain cells create ideas, Stress may kill brain cells. The truth is that not all stresses are destructive in nature. Appropriate amount of stress can actually trigger your passion for work, tap your latent abilities and even ignite inspirations. Stress is the emotional and physical strain caused by our response to pressure from the outside world. Common stress reactions include tension, irritability, inability to concentrate, and a variety of physical symptoms that include headache and a fast heartbeat. Stress is a condition or feeling experienced when a person perceives that demands exceed the personal and social resources the individual is able to mobilize. $S > P > R$ i.e., stress occurs when the pressure is greater than the resources. Stress is our body's way of responding to any kind of demand. It can be caused by both good and bad experiences. When people feel stressed by something going on around them, their bodies react by releasing chemicals into the blood. These chemicals give people more energy and strength, which can be a good thing if their stress is caused by physical danger. But this can also be a bad thing, if their stress is in response to something emotional and there is no outlet for this extra energy and strength. We cannot have a stress-free life. Stress is, of course, essential for every human being as it is considered as a boost that takes an employee to the highest ladder in the organization.

Information Technology (IT) industry in India has got a tremendous growth due to globalization of Indian economy and favourable policies from the government. IT and related professionals are at a constant pressure to deliver services efficiently and have to be cost effective and dynamic. Employees those who work in IT industry are prone to a range of serious health abnormalities due to continuous physical and mental struggle needed to complete their work. Diseases are either induced or sustained or exacerbated by stress. Some of the common health problems due to stress are acid peptic disease, alcoholism, asthma, diabetes, fatigue, tension headache, hypertension, insomnia, irritable bowel syndrome, psychoneurosis, sexual dysfunction and skin diseases such as psoriasis, lichen planus, urticaria, pruritus, neurodermatitis etc. Globalization and privatization resulted in new work relationships, job insecurity, insecurity regarding future working conditions and rapid obsolescence of skills which are causes of stress. IT industry emerged as one of the fastest growing industries in India in the past few decades. Strong demand over the past few years has placed India among the fastest growing IT markets in Asia-Pacific region. The reason for choosing particularly IT employees is that the level of stress these employees face is comparatively higher than other employees. Any kind of job has targets, and an employee becomes stressed when he or she is allotted with targets which are unachievable and are unable to manage a given situation.

Charu M. (2013), he stated that higher stress is directly proportional to quality of work life for IT Professionals. He outlined few factors namely fair pay structure, steady role demands, supervisory support, congenial job environment, capability fit of the job, role autonomy and stress that directly affect the quality of work life. The main reason of stress amongst the associates of IT industry is the rapid change in technology. Sinha V. and Subramanian K.S. (2012), the study highlights that various levels of organization experience different kind of organizational role stress. It also states that stress is influenced by various factors like shortage of resources, inadequacy within a person, overload with a role, stagnation of a role and isolation and

expectation of a role. Murali Raj, (2009), Depression is usually related to work and stress these people undergo because of the pressure to perform better, compete with other colleagues and meet tight deadlines. Most of their work is target-oriented and if targets are not met, it can lead to anxiety. Peers are not very supportive as they also competing in the same field. Moreover, insecurity about the job may lead to feelings of expression. Elkin and Rosch (1990) have summarized a wide range of other strategies which are directed towards increasing worker autonomy, participation and control. These strategies include: redesigning tasks, redesigning the physical work environment, role definition and clarification, establishing more flexible work schedules, participative management, employee-centered career development programmes, providing feedback and social support for employees and more equitable reward system. These are approaches which could prevent stress at work rather than treat stress once it has developed. 75% to 90% of all visits to primary care physicians are for stress-related complaints. Kesavachandran et al (2012) in their study, working conditions and health among employees at information technology - enabled services: A review of current evidence identified that muscular-skeletal disorders, ocular disorders and psycho-social problems were some of the key health problems observed among software professionals. There is a need for implementation of the programs that include the concepts of ergonomics, health education, training of personnel to prevent and overcome the morbidity, as well as psycho-social problems among workers in software industry. Michael R. Frone (2008), the relationship of work stressors, those work over load and job insecurity, to employee's alcohol use illicit drug use resulted, support the relation of work stressors to alcohol and illicit drug use before work, during the workday, and after work. Increased stress levels are a major problem affecting the software professionals. It has a major adverse implication both at individual as well as the organizational. Stress auditing helps the companies to identify employees with stress and in them stress levels can be reduced by adopting short duration SMT in work place. Vijay V. Raghavan, (2010), the effect of flexible work schedule, employee support and training, and telecommuting as potential coping resources to relieve stress. Perceived workload, role ambiguity, work facilitation, and decision latitude are potential stressors of IT professionals. Removing role ambiguity and improving work facilitation reduce work-related stress and allowing employees to have flexible work schedules ease their perceptions of workload. Sahana Charan, (2007), High work pressure, long hours in front of the computer and a fast-paced lifestyle, if these factors team up to weaken your physical health, here is one more strong reason why they are simply unhealthy: mental health professionals are now convinced that an increasing number of persons working in the IT and IT enabled services sector fall prey to depression, because of the high stress they undergo. Darshan (2009) in their article, A study on professional stress, depression and alcohol use among Indian software professionals, observed that the professionals or employees of IT or software companies are professionally stressed and are highly prone to chances for developing psychological ailments such as depression, anxiety and other psychiatric abnormalities. Preventive or management measures like training in stress management, frequent screening or periodic measures to identify professional stress, anxiety and depression helps to identify ill cases at the early stages and addressing these problems clinically might help the professionals in IT industry to cope with their profession in a convenient manner without causing any harms or problems for their lifestyle and health. Saurabh Shrivastava and Prateek Bobhate (2010) in their study, Computer related health problems among software professionals in Mumbai: A cross-sectional study, investigated that Musculo-skeletal disorders, ocular discomfort, and psycho-social problems form key category of health problems found among constant computer users. The study has also brought into focus factors contributing to the occurrence of these problems. Thus, the problem requires a multidisciplinary action and hence there is an immediate need for the concerned authorities to collaborate and enforce suitable preventive measures. Jakkula Rao and Chandraiah (2011) in their article, Occupational stress, mental health and coping among information technology professionals, found that job satisfaction and mental health are correlated but not significant. However, job satisfaction was positively and significantly correlated with coping behaviour. The mental health is negatively and significantly correlated with occupational stress. It can be explained that as job satisfaction and mental health increases coping behaviour increases and as stress increases mental health decreases.

II. OBJECTIVE & METHODOLOGY

The objective of the study is to assess the stress levels and factors associated with stress among employees working in IT companies in ITPL Bangalore. The research is survey based and the nature of study is explanatory using statistical tool. For the study 5 factors of stress were taken into consideration and questionnaire was framed based on the above 5 aspects to study the stress among the IT professionals. The questionnaire consists of 45 questions which were prepared based on various aspects of stress. Descriptive statistics and analysis was adopted based on the questionnaire survey in this study. Random sampling technique was adopted and 375 questionnaires were distributed among IT professionals those who are working in the ITPL area. Sample unit for the study consists of employees working in the ITPL area.

III. RESULTS & DISCUSSIONS

From the results obtained it is found that environmental factors contribute the maximum towards stress. The standardized coefficient beta value is 0.603 for the environmental factors at significance level of 0.01. Inter-role distance comes in the second position among the factors which yield a value of 0.273. Self-role distance and personal inadequacy comes after this

and it is found that the Role Boundedness doesn't play a significant role. Test was also conducted to find the relationship of stress between depression, anxiety and burnout. Pearson correlation was conducted which yield .792 for burnout, .630 for anxiety and .521 for depression at a significance level of 0.01. This shows that there is a high degree of positive relationship among this. It is also observed that the stress levels in married people are higher than that of unmarried people.

3.1 Influence of Different Factors on Stress

3.1.1 Hypothesis Testing

To study the influence of different factors on Stress, five research hypotheses were formulated. The hypotheses formulated to answer the research question are:

H_{0a}: There is no significant relationship between Self Role Distance and Stress.

H_{0b}: There is no significant relationship between Inter-Role Distance and Stress.

H_{0c}: There is no significant relationship between Role Boundedness and Stress.

H_{0d}: There is no significant relationship between Environmental Factors and Stress.

H_{0e}: There is no significant relationship between Personal Inadequacy and Stress.

H_{1a}: There is a significant relationship between Self Role Distance and Stress.

H_{1b}: There is a significant relationship between Inter-Role Distance and Stress.

H_{1c}: There is a significant relationship between Role Boundedness and Stress.

H_{1d}: There is a significant relationship between Environmental Factors and Stress.

H_{1e}: There is a significant relationship between Personal Inadequacy and Stress.

Pearson product-moment correlation coefficients were computed between the dimensions of stress factors and the overall stress. The Pearson correlation coefficient is a measure of linear association between two variables. The values of the correlation range from -1 to 1. The sign of the correlation coefficient shows the direction of the relationship (positive or negative). The absolute value of the correlation indicates the strength, with larger absolute values indicating stronger relationships. The significance of each correlation coefficient is also displayed in the correlation table. If the significance level is very small (less than 0.05) then the correlation is significant and the two variables are linearly related.

Table 1. Hypothesis Testing

SL. NO	HYPOTHESIS	RESULTS
1	H _{1a} : There is a significant relationship between Self Role Distance and Stress.	Positive, large and significant relationship ($r=0.571$, $p<0.01$)
2	H _{1b} : There is a significant relationship between Inter-Role Distance and Stress.	Positive, large and significant relationship ($r=0.709$, $p<0.01$)
3	H _{0c} : There is no significant relationship between Role Boundedness and Stress.	Non-significant relationship ($r=-0.554$, $p>0.01$)
4	H _{1d} : There is a significant relationship between Environmental Factors and Stress.	Positive, large and significant relationship ($r=0.744$, $p<0.01$)
5	H _{1e} : There is a significant relationship between Personal Inadequacy and Stress.	Positive, large and significant relationship ($r=0.634$, $p<0.01$)

Table 2. Correlation matrix

		SRD	IRD	RB	EF	PI	STRESS
SRD	Pearson Correlation Sig. (2-tailed) N		.350** .000 374	.073 .190 374	.523** .000 374	.400** .000 374	.571** .003 374
IRD	Pearson Correlation Sig. (2-tailed) N	.350** .000 374	1 374	.402** .000 374	.331** .000 374	.681** .000 374	.709** .000 374
RB	Pearson Correlation Sig. (2-tailed) N	.073 .190 374	.402** .000 374	1 374	.178** .001 374	.674** .000 374	-.554 .139 374
EF	Pearson Correlation Sig. (2-tailed) N	.523** .000 374	.331** .000 374	.178** .001 374	1 374	.444** .000 374	.744** .000 374
PI	Pearson Correlation Sig. (2-tailed) Sig. (2-tailed) N	.400** .000 .000 374	.681** .000 .000 374	.674** .000 .001 374	.444** .000 .000 374	1 374	.634** .000 .000 374
STRESS	Pearson Correlation Sig. (2-tailed) N	.571** .000 374	.709** .000 374	-.554** .000 374	.744** .000 374	.634** .000 374	1 374

**. Correlation is significant at the 0.01 level (2-tailed).

3.1.2 Prioritization of Factors Influencing Stress

Linear regression is used to model the value of a dependent scale variable based on its linear relationship to one or more predictors. Regression analysis is done by taking Stress as a dependent variable and the various factors as Independent variables.

Table 3: Regression Matrix

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.758	.212		3.574	.000
	SRD	.035	.016	.124	2.156	.032
	IRD	.123	.032	.273	3.867	.000
	RB	-.046	.031	-.119	-1.481	.139
	EF	.153	.023	.603	6.762	.000
	PI	.067	.022	.235	3.043	.003

a. Dependent Variable: Stress

From the above table it is clear that it is the environmental factors that contribute maximum towards stress and also role boundedness have an inverse relationship. Factors in its increasing order of influence is EF,IRD,PI,SRD.

3.3 Impact of Stress

From the previous studies it is observed that stress can affect a person's physical as well as mental health. Some studies shows that stress can lead to depression, anxiety and burnout. This study also proves that stress can lead to unhealthy conditions.

3.3.1 Hypotheses Testing

The following hypothesis was formulated & tested for finding significance of relationship between three variables:

H_{0f}: There is no significant relationship between Stress and burnout

H_{0g}: There is no significant relationship between Stress and anxiety.

H_{0h}: There is no significant relationship between Stress and depression.

H_{1f}: There is a significant relationship between Stress and burnout

H_{1g}: There is a significant relationship between Stress and anxiety.

H_{1h}: There is a significant relationship between Stress and depression.

Pearson product-moment correlation coefficients were computed between the dimensions of stress factors and the overall stress. The Pearson correlation coefficient is a measure of linear association between two variables. The values of the correlation range from -1 to 1. The sign of the correlation coefficient shows the direction of the relationship (positive or negative). The absolute value of the correlation indicates the strength, with larger absolute values indicating stronger relationships. The significance of each correlation coefficient is also displayed in the correlation table. If the significance level is very small (less than 0.05) then the correlation is significant and the two variables are linearly related.

Table 4. Correlation matrix

		stress	burnout	anxiety	depression
stress	Pearson Correlation	1	.792**	.630**	.521**
	Sig. (2-tailed)		.000	.000	.000
	N	374	374	374	374
burnout	Pearson Correlation	.792**	1	.230**	.391**
	Sig. (2-tailed)	.000		.000	.000
	N	374	374	374	374
anxiety	Pearson Correlation	.630**	.230**	1	.725**
	Sig. (2-tailed)	.000	.000		.000
	N	374	374	374	374
depression	Pearson Correlation	.521**	.391**	.725**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	374	374	374	374

**, Correlation is significant at the 0.01 level (2-tailed).

Table 5: Hypothesis Testing

SL. NO	HYPOTHESIS	RESULTS
1	H_{1f}: There is a significant relationship between Stress and burnout	Positive, large and significant relationship ($r=0.892$, $p<0.01$)
2	H_{1g}: There is a significant relationship between Stress and anxiety.	Positive, large and significant relationship ($r=0.630$, $p<0.01$)
3	H_{1h}: There is a significant relationship between Stress and depression.	Positive, large and significant relationship ($r=-0.521$, $p<0.01$)

IV. CONCLUSION

The study focused on finding the influence of different factors of stress. The results revealed that environmental factors have the greater influence towards stress and also the role boundedness doesn't have significant influence. Also it is tested and obtained that the stress can cause burnout, anxiety and depression. It is essential to handle stress management with utmost care by the IT companies because it is essential to make their employees productive and maintain their productivity. ITPL being the area of study lights on several things such as pollution had a very adverse effect towards stress. Previous studies justifies job related stress were more with IT professionals but this study reveals that job related stress have decreased considerably. IT employs western culture and it is clear from the study that it conflicts with Indian culture. Effective stress management can create better workplaces.

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